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*Deceased.

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Acting Master Samuel B. Gregory: The Trials of An Unexperienced Captain on the South Atlantic Blockading Squadron

MARK ROMAN SCHULTZ

THE American Civil War sent the Northern and Southern societies hurrying to forge their plowshares into swords, their farmers into warriors. Often, in their haste to mass-produce armies and navies, the combatant powers threw their citizens into battle ill-trained. Such was the condition of many of the sailers and officers of the Union Navy's South Atlantic Blockading Squadron.

The Union needed a blockade which would effectively prevent access to the Southern coast. England, in accordance with accepted international maritime practices, had refused to observe anything less. Union strategists believed that English non-observance of the blockade would greatly increase the prospects of the Confederacy and could possibly lead to an Anglo-American war.[1]

To build a blockade which could satisfy the European powers, the Union assembled a stopgap flotsam of vessels, which it captained with non-military, and sometimes non-maritime recruits. Between 1861 and 1865, the U.S. Navy's manpower rose from 7,600 to 51,500 and its fleet from 42 active ships to 671. Although the army also had to absorb and train a flood of raw recruits using limited trained leadership, the navy faced unique problems. While men in both services had to acquire the common art of warfare, only Naval officers had to become skilled in seamanship. And while Army officers could maintain regular contact with their superiors, a newly appointed ship's captain was unavoidably isolated. Despite these difficulties, just as the Army trained blacksmiths and cobblers to march companies of soldiers into battle, the Navy audaciously sent them to pitch upon the sea as masters of their own vessels.[2]

Somehow, these untrained Naval captains developed the skills necessary to inhibit blockade runners and satisfy the foreign governments. Still, although the post bellum accolades of the volunteer navy are seemingly universal, at least one Union Rear Admiral expressed ambivalent feelings toward his subordinates, albeit privately, in a letter to his wife. On November 5, 1862, Rear Admiral Samuel F. DuPont wrote:

> This extemporized Navy, both in material and personnel, though wonderful in its way and should not be taken lightly is yet the source of much trouble to me. Many of the vessels of the squadron have not a single regular officer on board. As I have often said, a doctor or a paymaster who had been on a single cruise in a man-of-war would help these men wonderfully. One single sea officer would keep all right, but there is none to send—for I have reason to believe the Department is making about the most able disposition it can of them under this war pressure.
>
> Yesterday we had the Western World in—a North River cattle boat, but very well fitted and by her light draft of water has been a very useful vessel. She is commanded by a respectable shoemaker from Marblehead [Massachusetts], who doubtless has been to sea. I have just discussed why he was appointed—he was evidently the politician of his village, could organize a meeting, and address it too and keep it interested until the member of Congress or some gros bonnet arrived . . . [to enlist them].

DuPont closed this section of the letter by relating part of a conversation with Commander John Rodgers in which Rodgers had speculated upon the reaction of a French or English admiral to whom such in-

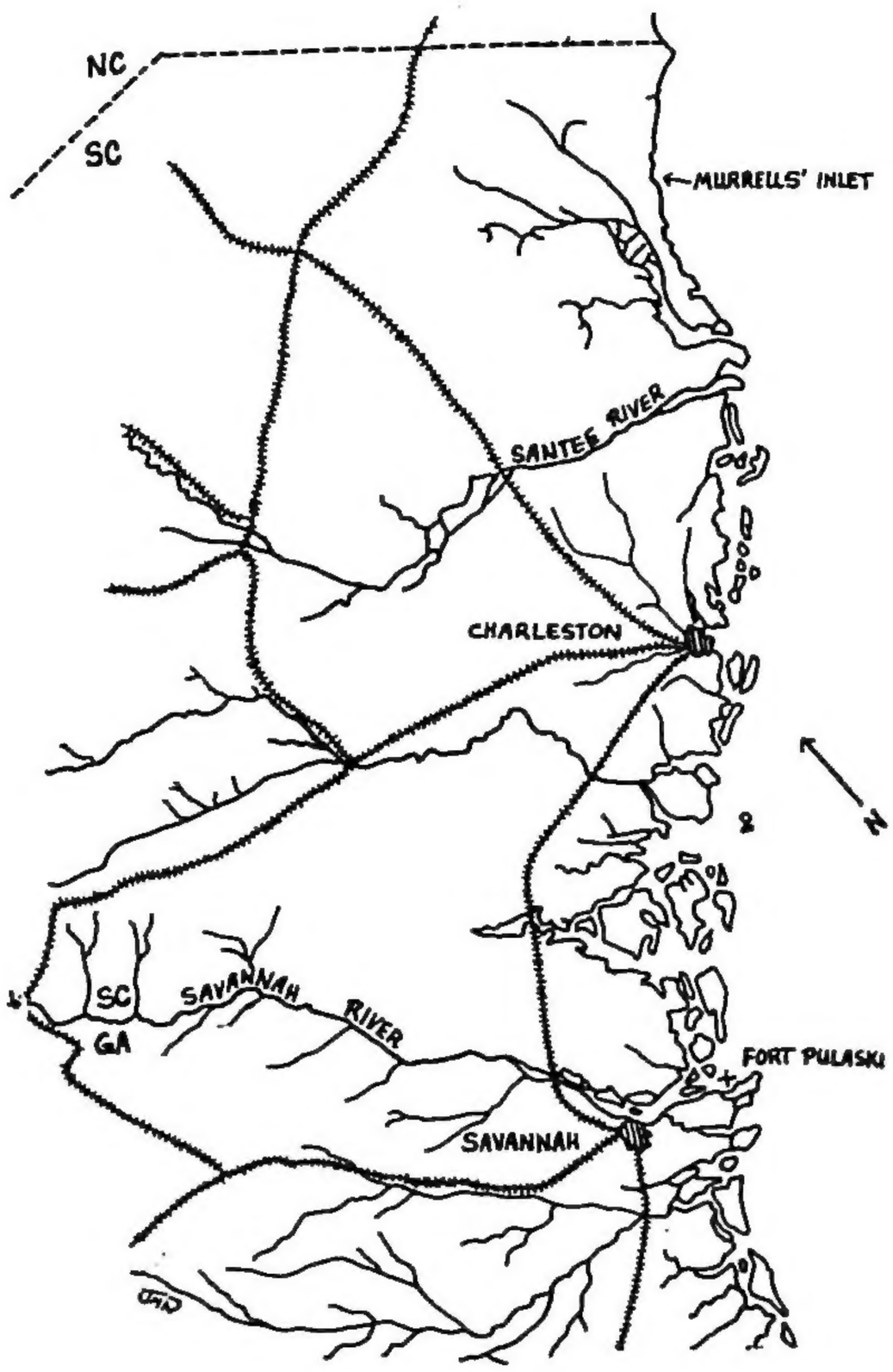
1. D. P. Crook, *The North, the South, and the Powers,* (New York: John Wiley and Sons, 1974), 48-49.

2. James Russell Soley, *The Blockade and the Cruisers,* (New York: Charles Scribner's Sons, 1883) 9-10.

experienced captains were sent. DuPont quipped, "He said they would be taken with apoplexy."[3]

There was clearly an uneasiness expressed in the comments of these senior officers. In the course of the letter, DuPont describes an insurrection on the *USS Western World*, which its commanding officer, Samuel Bowden Gregory had successfully put down. His caustic account described Gregory as "honest" and "conscientious," but incompetent. The Rear Admiral, if given an alternative would rather have had Gregory back in Massachusetts, stitching soles onto shoes. Furthermore, DuPont's letter states pointedly that Gregory did not enjoy the confidence of his crew on the *Western World*. DuPont's skepticism raises questions about the practical ability of the volunteers to lead at sea. To gain better insight into the actual competence of these men, let us further examine the naval career of Acting Master Samuel B. Gregory.[4]

Gregory's first tour began on January 2, 1862, when Secretary of the Navy Welles ordered him to proceed with the newly acquired *Western World* to join the South Atlantic Blockading Squadron. He would spend most of the following year patroling the Savannah River and its tributaries in search of blockade runners. Gregory entered the service at the age of forty-nine. His son, Samuel B. Gregory Jr., sixteen years old, enlisted aboard the vessel as a landsman and the keeper of the ship's logbook. This logbook details the workhorse tasks which the *Western World* performed. It carried dispatches for Admirals and troops and supplies for Generals. It towed ships to the open sea and pulled grounded vessels from sandbars. Besides this, the *Western World* played an active role in the naval combat around Fort Pulaski, and sent out raiding parties to rebel plantations and saltworks.[5]



Map copied from "Lloyd's New Military Map of the Border and Southern States." NY: H.H. Lloyd and Co., 1862, University of Chicago Libraries, Map Division. Copied by Jill Nicolaus.

However, tucked within the logbook's chronical of military action lies a persistent theme of unruliness among Gregory's crew. At regular intervals, order disintegrated into bursts of drinking, brawling and insubordination which the Captain attempted to quell by liberally applying irons, double irons and arrest warrants. The crew would become manageable for a few weeks and then would erupt into another fit of rebellion. Between January 16, 1862, when the ship sailed out of New York, and November 24, 1862, young Gregory recorded that almost forty percent of the crew spent time in irons for various charges. The senior Gregory ironed men five times for alcohol related incidents, six times for fighting, thirteen times for the neglect of duty, five times for the destruction of navy

3. *Samuel F. DuPont Civil War Letters*, Vol. II, ed. John D. Hayes (Ithaca, New York: Cornell University Press, 1969), 276-277.

4. Samuel Gregory was born in 1812 to John H. and Tabitha (Bowden) Gregory. The genealogical file of the Marblehead Historical Society states generally that all seven of John Gregory's sons became sea captains. However this may be misleading as Benjamin Lindsey's book, *Old Marblehead Sea Captains and the Ships on Which They Sailed* (published privately by Lindsey in Marblehead, 1915) lists only John Gregory and five of his sons. Samuel Gregory, who's name does not appear in the directory, probably enlisted for a stint in the navy on the basis of a strong family tradition of seamanship. As DuPont derisively identifies him as a shoemaker and politician, it is likely that his experience with the sea was indirect.

5. *Official Records of the Union and Confederate Navies in the War of the Rebellion*, Series I Vol. 12 (Washington: Government Printing Office, 1895), 459; *Logbook of the USS Western World*, Special Collections, University of Georgia Main Library, Athens Georgia, passim.

property, seven times for insubordination and nine times for profanity, abusive language or insolence to an officer, of which the Captain himself was explicitly mentioned four times.

In all, the crew of ninety men needed only ten months to commit forty nine offenses which required irons and a note in the logbook. Twenty five men committed one offense each, while ten men committed two or three each. In the course of the year, the crew forced Gregory to deal with almost every kind of offense practible on a ship. On one occasion, two men were put in irons for "carelessly losing [the] boat's rudder." On another occasion, "Edward Murphy [was] put in irons by order of the Captain for maliciously [throwing the] mess kettle overboard." Gregory seemed to take this as a request for better food, for six days later he sent a "cutter ashore for fresh beef for the mess rooms and crew." Unfortunately the new provisions were not much of an improvement as young Samuel Gregory Jr. noted in the log that night the "changeable appearance of the meat." Apparently the vessel's five mess cooks noted it too because a few days later Gregory ironed them all "for throwing fresh meat overboard."[6]

At least on one occasion the disorder on the *Western World* turned from comic to tragic. The events began on May 21, 1862 following a stretch of several days of "gloomy weather" during which the Captain was "very sick." According to the younger Gregory: "At 8 A.M. George Bell forcibly [sic] obtained his grog . . . [He] was ordered to be put in irons. When he refused [the] bows[ons] mate and gunners mate [were] ordered to put him in irons. They refused to put him in saying they were no[t] master at arms. The officers ironed them and then bell [sic] was ironed." For the following days, Gregory and Captain R. Lam of the nearby vessel *Vermont* exchanged commands to bring the *Western World* under control, but the well established rebelliousness on the ship defied remedy. At 1:30 P.M., May 22, Captain Lam mustered all hands. When Prentice J. Homes did not appear, Lam sent search parties ashore, no doubt expecting to capture a would-be deserter. But Homes had not deserted. The day's log recorded his discovery: "Homes' body was recognized by Mr. Gregory['s] mastermate. The corps [sic] was found at low water . . . with a bottle suposed [sic] to have lickor [sic] in round his neck."[7]

Sobered by the ironings and the death of Homes, the crew became docile for over five weeks, the longest period of peace for the entire year. Then, on the first of July, Edward Graham insulted the Captain who promptly clapped him, hand and foot, in irons. Unimpressed by the punishment meted out to Graham, the crew returned to its restive ways. Disorder continued through the summer and into the fall. It climaxed in the insurrection of October 29, 1862, which drove Rear Admiral DuPont to wonder about the wisdom of the "extemporized Navy."

On that day, the logbook relates that "insulting language to the Captain" landed Michael Wholer in the then familiar irons. Soon after, another man followed him. In a few hours,

> the crew, headed by George Bell, Robert Lewis and John Deveroux assembled on the spar deck and requested [Officer] Peltingill to take command of the ship as they would not serve under Captain S. B. Gregory. Captain appeared and ordered them to return to their stations and they refused to do so. The Captain read the U.S. Navy Laws with reference [sic] to mutiny after cauling [sic] upon the officers to arm themselves. . . . After some explanations the crew returned to their duty satisfied.[8]

The cobbler had regained at least temporary control. Of course he quickly consigned the leaders to irons and within a day placed Mr. Peltingill under arrest. Yet even in this successful reassertion of his authority, Gregory seems to have gained little respect, as DuPont's belittling remarks reveal:

> This old man, Gregory by name, gave us an account yesterday morning of a mutiny, or mutinous assemblage of his crew in the Western World. It was very graphic and remarkably well expressed: how he appealed to his crew—they were not doing outrage to his authority but to the flag under which they served—how he had intended blowing out the brains of his officers first and then the ringleaders afterwards. It was uncommonly well done. Of course there was no mutiny, the only trouble was that he could not control a crew of ninety men—probably had never controlled his own children—yet, I believe, a conscientious honest man."[9]

Why was Gregory unable to command his men in an

6. *Logbook*, passim.

7. *Ibid*, May 21 and 22, 1862. During this year, 1862, the Navy Department discontinued its traditional daily allotment of a half pint of grog to seamen. Episodes such as this one may have influenced the decision.

8. *Ibid*, passim.

9. *DuPont*, 277.

orderly fashion? Many officers must confront occasional unruliness in their men during war. Often this is an understandable way for men to relieve the tension which arises from their alternate bouts with fear and boredom. Yet the consistency with which Gregory was obliged to deal with egregrous breaches of discipline requires a further explanation. The answer must lie in Acting Master Gregory's inability to generate respect in the men. Although he seemed to accomplish his work competently, and by the recordings of his son, committed no grave errors in seamanship, Gregory must have lacked some essential, if unquantifiable virtue in the eyes of the sailors. They perceived a distinction between their captain and a "real" Naval officer. The difference probably wasn't to be found in a reticence to lead on Gregory's part, for DuPont tells us that he was a "local politician" who had ambitiously sought a Naval command. Such a man would seem more inclined toward bold self-importance than timidity. At 49, he was old enough to command respect, but had not attained an age which would make him suspect of dottage.

The essential lack must have lain in momentary shows of uncertainty at times of crisis or, more fatally, by the inevitable revelations of Gregory's lack of familiarity with the daily operation of a vessel. Even newly inducted mariners must have sensed hesitation within the old shoemaker gone to sea. Only if the sailors recognized such a lack of control in their superior would they have displayed such outstanding disrespect for him.

There was more to Samuel Gregory, however, than the actions of his crew reflect. Within the 1862 logbook of the *Western World,* two distinct themes unfold. The first depicts a naval commander who could not maintain discipline on his vessel. The second renders a far different view of a Massachusetts shoemaker who, with minimal training, competently assumed a skilled role in the strategic plans of the Union navy. The great surprise of the logbook lies not in the fact that Gregory was unable to pass himself off as a regular Naval officer but rather that as an emergency volunteer, he was able to render valuable service to the Atlantic Blockading Fleet. For despite the rebelliousness of his crew and the mistrust of his superiors, Gregory did serve well. From January 27, eleven days into his first commission until July 22, he regularly forced confrontations with Confederate vessels. On numerous occasions, he fired on single vessels and blockade runners. Twice he played a primary role in engagements with rebel fleets that were under the direction of Confederate Commodore Tattnal. At other times, he led marines and sailors ashore to destroy salt works, burn plantations and carry away slaves. He even helped capture a prize of war, a British blockade running schooner named *Volante,* which he boarded on July 2.[10]

The dispatches in *The Official Records of the Navy* indicate that he was valued by his immediated superiors, if not by the top brass. On July 3, 1862, Commander George Prentiss noted in a letter to DuPont that he left "Acting Lieutenant Baxter in charge" of the blockade on the Savannah River, "with the Western World, Acting Master Gregory for his assistant in keeping the blockade and protecting the contrabands, whose number has swelled to over 600." He adds that he would send a number of the blacks to DuPont in Port Royal "if the Western World could possibly be spared." Later, on July 25, Gregory received a commendation from a regular navy officer, Lieutenant George Balch. Gregory and Captain Baxter of the Union vessel *Gem of the Sea,* had recently raided a plantation, destroyed a salt works and carried away a large number of slaves to Port Royal. Balch's letter to DuPont stated "I have great pleasure in testifying to the prompt and manly course that both of these officers took in the matter . . . I beg leave to add my testimony to the zeal and energy of Captains Baxter and Gregory since my arrival at this port. They have been indefatigable in every way in the embarkation of nearly 1,700 contrabands."[11]

In 1863, Acting Master Gregory's record remained impressive. After the fall of Pulaski, he sailed North to patrol the waters off of South Carolina. There, he captured four prizes, one with a cargo full of provisions, burned three other vessels and captured two Confederate prisoners. Thus Gregory, the shoemaker, found a way to perform outstanding service as a Captain. He continued to command the *Western World* until late in 1863, whereupon the navy transferred him to the *US Perry,* which had earlier been DuPont's own vessel. The *Perry* was a lighter, more maneuverable vessel than the *Western World*, weighing 280 tons instead of 441. It also had eight 32 pound guns as opposed to the two 32 pounders and one 30 pound gun which armed his former command. The move constituted a promotion, a vote of confidence from Rear

10. *O.R.* Series I Vol. 12, 501 and 524.
11. *O.R.* Series I Vol. 13, 123 and 213.

Admiral DuPont. The confidence proved to be short-lived, for soon after, Gregory committed the only tactical error which mars his record in the official correspondence.[12]

The Union vessel, *Ward*, off Murrells' Inlet, South Carolina sent a party ashore to search for water late in 1863 and lost ten men to a Confederate ambush. DuPont's replacement as Rear Admiral of the South Atlantic Blockading Squadron, John A. Dahlgren, sent Gregory and the *Perry* to patrol the same area. In a letter to Dahlgren, Gregory related the ensuing events of December 5, 1863.

Having seen "A vessel being fitted up for the purpose of running the blockade, and fearing that she might escape in the night . . . I determined to destroy her if I could. I dispatched two boats for that purpose. After shelling around the schooner, I ordered them to the beach under the cover of our guns; instructed Mr. Arrants, acting ensign, to send one person to see if the way was clear, and if so to foreward one or two more to set fire to her and the rest to remain in the boats to afford a retreat for the two or three on shore: but to my surprise, he landed all but two or three of the first cutter, and in less than three minutes the [Confederate] cavalry rushed down and surrounded them and cut off their retreat. They attacked the boats, but our first shell scattered them, they harming no one in the boats. After some hand-to-hand fighting our men surrendered, there being more than sixty in number of the cavalry. My precious son, a lad of 17 years of age, was among the number captured. I can not conceive how Acting Ensign Arrants made so great a mistake."[13]

Gregory's boldness caused the deaths of three of his men, the wounding of three more and the capture of eight, including Samuel Gregory, Jr. The failure was due to four factors. Ensign Arrants carried much of the blame for disregarding his captain's orders. The younger Gregory, who was supposed to signal the ship at the approach of the enemy, panicked and ran into the ambush instead. And Gregory received a share of the responsibility for allowing the ship to drift into a position from which he was unable to bring his guns directly to bear on the charging rebel cavalry. Nevertheless, the onus of ultimate responsibility for daring plans that fail must return to the originator of the scheme.[14]

In his own explanatory letters, Dahlgren wrote to Secretary Welles: "Under the circumstances it was a blundering affair, without judgement on the part of the commanding officer, and aggravated by the alleged disobedience of the officer sent ashore in charge of the party." But elsewhere he wrote less harshly "I sent the Perry there expressly in order that the rebels might have a more powerful vessel to deal with and, I hoped, a more experienced officer in command. These blunders are very annoying, and yet I do not like to discourage enterprise and dash on the part of our officers and men. Better to suffer from the excess than the deficiencies of these qualities."[15]

On December 30, 1863, Rear Admiral Dahlgren detached his overbold cobbler from the command of the US brig *Perry* and sent him to the *USS Potomska,* a somewhat lesser vessel. He remained in the service for the duration of the war, but slipped from sight. Gregory is not mentioned in the *Official Records of the Navy* after his transfer to the *Potomska.*[16]

In balance, Samuel Gregory did not serve with the efficiency of a trained regular naval officer. The essential point however, is that he was not a mariner at all; he was a shoemaker. He entered his command in January 1862, when the Union navy experienced a desperate need for actual ships to fill spaces in the Southern Blockade. Ships require captains. In the early urgent stages of the war, when trained leadership could not be had, the Department of the Navy at times settled for willing landlubbers to expedite the passage of ships to the Southern coast. Somehow, they acquired enough seamanship to fill the needed spaces, and some, like Acting Master Gregory, managed to strike some telling blows in the proces. One grasps a sense of the wonder of the volunteer navy by reading between the lines of Rear Admiral DuPont's letter to his wife: "The paymaster of the [USS] Patroon said in a very humble way to our paymaster, 'I hope we shall get home. Our Captain does not know much, though a very good man—he is a blacksmith by trade—but we have one officer on board who understands a little of navigation.' "[17]

12. *O.R.*, passim; *Dictionary of American Naval Fighting Ships*, Vol. 8, ed. James L. Mooney (Washington: Naval Historical Center, Department of the Navy, 1981), 235. *Ibid*, Vol. 5, 268.
13. *O.R.* Series I Vol. 15, 153.
14. *O.R.* Series I Vol. 15, 160.
15. *O.R.* Series I Vol. 15, 155 and 152.
16. *O.R.* Series I Vol. 15, 215; *Dictionary*, Vol. 5, 363.
17. *DuPont*, 277.

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Pestilence From The Sea And American Maritime Quarantine Policy

Robert G. Hancock, Jr.

Quarantine is an ultimate result of a physical fact influencing an instinctive sentiment. The fact exists in certain living organisms, of malignant pathogenic powers, capable of rapid and widespread propagation. . . . The instinct is that of fear operating under the law of self preservation.[1]

DISEASES have decimated man on a consistent and regular basis. Ignorance of the causes of these diseases, or at least the means of controlling them, has created considerable pain and suffering. It wasn't until the nineteenth century that man's relationship with diseases began to undergo a dramatic change: passive suffering became active prevention. With great struggle, the theory that diseases came from the "miasmas" of putrefying matter lost ground. In turn, an appreciation for the importance of microscopic organisms developed. At the same time, man began to appreciate the relationship of transportation, especially waterborne, and sickness. Man began viewing the ship with greater scrutiny and suspicion. Quarantine, a concept going back in various forms for thousands of years, took on new importance. This paper proposes to look at the development of maritime quarantine as a mode of disease control, with.a focus on New Haven, Connecticut.

The Plagues of Man

The number of diseases that have plagued man is astounding. The common cold or the infected hangnail could kill as long as man remained in the dark as to the causes and methods of disease propagation. Many illnesses, the method of curing quite well known today, could, when in epidemic rage, destroy major portions of any particular population. Some of the diseases of great concern in man's past include leprosy, bubonic plague, diptheria, tuberculosis, typhoid fever, typhus, smallpox, yellow fever and cholera.

Leprosy created havoc due to its confusion with other degenerative skin diseases, its frequency, the way in which it disfigured its victims, and its assumed contagion and fatality. Simply breathing the breath of a leper was considered sufficient to contract the disease. Although the *Myobacterium leprae* bacterium was discovered in 1874, the method of transmission is still a mystery. No one has successfully passed the disease on to an uninfected person or animal. It is not transmitted from mother to unborn child. Children removed from infected parents do not contract the disease. However, the mere sight of a leper, before the development of enlightened views of treatment, caused panic. A diagnosis of leprosy meant permanent quarantine.[2]

No other disease caused more destruction and fear during the fourteenth and fifteenth centuries than the plague. Overwhelming hemorrhaging under the skin was one of the major symptoms of the bubonic variant of the plague. The hemorrhaging caused the discoloration that gives the disease its common name of "black death." The mortality rate of the disease at epidemic stage was extremely high. An estimated 25 million people died during the plague's European visit in the thirteenth and fourteenth centuries. Controlling the disease was impossible until the nature of the vehicle, the *Pasturella pestis* bacterium, and the vectoring agents, the rat and its fleas, were understood.[3]

Tuberculosis was one of the major causes of death

1. Dr. Joseph Holt, *An Epitomized Review of the Principles and Practices of Maritime Sanitation* (New Orleans: L. Graham & Son, 1892), p. 8.

2. David F. Musto, "Quarantine and the Problem of AIDS," *The Milbank Quarterly*, Vol. 64, Suppl. 1 (1986), pp. 96 & 98. Dr. Stanley L. Robbins, *Pathologic Basis of Disease* (Philadelphia: W. B. Saunders Company, 1974), pp. 418-420.

3. Josip Matovinovic, "A Short History of Quarantine," *University of Michigan Medical Center Journal*, Vol. 35, (1969), p. 225.

during the nineteenth century. Today, in America, the disease is rarely fatal. Like leprosy, tuberculosis is a long term illness. Unlike leprosy, the victim can appear and feel quite healthy for years while remaining very infectious. The *Mycobacterium tuberculosis* bacterium, discovered in 1882, usually involves the lungs. Of the forms of tuberculosis that exist, including one variant associated with fish, man is only subject to that affecting man and domestic cows. As a result, the disease is spread by interpersonal contact or the drinking of infected milk.[4]

Diptheria existed in a very mild form until a 1735 attack in New England. A large number of the region's children died during that epidemic. The disease, caused by the *Cornebacterium diptheriae* bacterium, is transmitted by sneezing and coughing. Diptheria, primarily a problem for pre-pubescent children, creates a false membrane that grows down into the throat. Death often results from suffocation.[5]

Typhoid fever is the most serious of all of the salmonella infections. Limited to man, it is the result of human contamination of water, milk and food. The most important source of the disease is the carrier, the apparently healthy person who has recovered from the disease but still harbors the bacteria. The flea is occasionally a vector, biting infected individuals and then biting a healthy person.[6]

An organism somewhere between a virus and a bacterium causes epidemic typhus. This rickettsial infection is transmitted by the human head or body louse, and occasionally the rat flea. The disease affects people forced to live in close contact under inadequate hygienic conditions. As a result, typhus may have had more of an effect on various portions of history than man. Professor Stanley L. Robbins contends Napoleon's army suffered more from this disease than at the hands of the British.[7]

Colonial America suffered through few diseases that proved as universal or fatal as smallpox. Smallpox has shaped the history of early America in ways no army could have approached. Three million natives of Central and South America died from smallpox introduced by Spaniards in 1520. Some historians argue that whole settlements of North American Indians died in the seventeenth century from the disease. The cause is still not known other than that it is viral in nature. There is no age barrier. It is a contact disease. The best protection from the disease is vaccination. However, the vaccination technique is no longer used in the United States due to the greater possibility of complications from the vaccination than from smallpox itself.[8]

Yellow fever is a viral infection transmitted by mosquitoes. The disease, although tropical in nature, could thrive during the hot New England summers. As a result, the disease would reach epidemic proportions during the summer then die off in the winter. The symptoms of the disease include the skin taking on a characteristic lemon yellow coloring. The victim progressed to vomitting partially digested blood which is usually dark brown to black, hence the disease's popular name "black vomit." Death, as a result of yellow fever, usually occured as a result of liver and kidney damage.[9]

In the eighteenth century, yellow fever created its share of terror on America's coast. The disease never worked its way very far inland, leading to the belief in the usefullness of maritime quarantine in fighting the infestation. Yellow fever made its first appearance in the New World in the middle of the seventeenth century. It became well established in the West Indies, then moved into Central and South America. The first proven yellow fever epidemic occured in Boston in 1693 following the anchoring of the British fleet in Boston Harbor. The fleet had just arrived from Barbadoes where the disease was rampant. The disease was first noted in Connecticut in 1743. Yellow fever made its most deadly visit to New Haven in 1784 and to New London in 1798.[10]

Cholera, caused by the *Vibrio comma* or *Vibrio El Tor* bacterium discovered in 1883, spreads through food and water contaminated by human waste. It is a disease primarily of the poor living under atrocious sanitary conditions. The cholera bacteria produces a toxin which penetrates the lining of the intestine resulting in an outpouring of tremendous amounts of

4. Musto, p. 6. Robbins, p. 411.

5. John Duffy, *Epidemics in Colonial America* (Baton Rouge: Louisiana State University Press, 1953), pp. 114-115. Robbins, pp. 390-392.

6. Robbins, pp. 397-399.

7. Robbins, p. 424.

8. Duffy, pp. 16-17, 18, 22-23. Robbins, p. 430.

9. Duffy, p. 138. Musto, p. 102. Robbins, pp. 437-438.

10. Charles-Edward Amory Winslow, "The Colonial Era and the First Years of the Republic (1607-1799) the Pestilence that Walketh in Darkness," *The History of American Epidemiology* (St. Louis: The C. V. Mosby Company, 1952), pp. 28-31.

fluid. Almost all deaths occur as a result of metabolic and fluid imbalances rather than by bacterial infection. Controlling the disease, once understood, and healing the victims became a simple task. It was necessary to provide a sanitary environment to control the disease. Healing requires massive intravenous infusions of saline, a salt water solution, to counter the loss of water due to vomitting and diarrhea.[11]

Cholera may not have been experienced outside the far east until 1817. However, it had spread throughout the world by the middle of the nineteenth century. The explosive nature of the disease in epidemic form and its method of striking down victims added to its terror. Those who contracted the disease could be dead within hours after the onset of the first symptoms. Malaria and tuberculosis each killed more people than cholera. These diseases had been with man for years. Cholera was new and frightening.[12]

Preventing the Spread of Disease

Lepers were among the first to be separated from their fellows because of illness. Biblical leprosy, which may have included indigenous venereal diseases, was diagnosed by the local priest:

> When a man shall have in the skin of his flesh a rising, a scab, or bright spot, and it be in the skin of his flesh like the plague of leprosy, then he shall be brought unto . . . the priests:
>
> And the priest shall look on the plague in the skin of the flesh: and when the hair in the plague is turned white, and the plague in sight be deeper than the skin of his flesh, it is a plague of leprosy: and the priest shall look on him, and pronounce him unclean. . . .
>
> And the leper in whom the plague is, his clothes shall be rent, and his head bare, and he shall put a covering upon his upper lip, and shall cry unclean, unclean.
>
> All the day wherein the plague shall be in him he shall be defiled; his is unclean: he shall dwell alone: without the camp shall his habitation be.[13]

The lepers' clothing received the same scrutiny of the priest. They were burned if declared plague infested.

The Italian city-states used concepts developed in the isolation of lepers in the effort to control the spread of the "black death" plague. Venice was the first to make provisions for maritime sanitation when public health officials were appointed in 1000 AD for the duration of an epidemic of undetermined origin. Venice appointed the first public health officers in 1348 with a budget from taxes to be used to isolate infected ships, cargoes and people on an island in the Grand Lagoon. The forty day period of isolation, the *quarantenaria*, became the established period of isolation for waterborne travelers and cargoes. Thirteenth and fourteenth century thought considered the fortieth day the separation point of acute from chronic diseases. The Bible also offers a number of references to forty days, e.g., the Flood and Christ's journey in the wilderness.[14]

Venice and Genoa conducted the first effort at controlling disease spread from the international route. Both city-states, with questionable degrees of success, forebade ships from plague ridden ports from making land fall. The medical results of these efforts are *not* known. The refusal of port entry could have had very serious negative economic results. Trade with the outside world could have been interupted sufficiently as to cause starvation, which would have been worse than the plague.[15]

The 1374 edict of Bernardo Visconti, in the province of Emelia, marks a major milestone in the development of quarantine as a separation of the sick to prevent disease propagation. Victims of the plague were removed from the community in this draconian effort and placed in fields where they either recovered or died. Similar to biblical leprosy, the clergy performed the diagnosis. Special nurses were appointed to attend the sick. Violators of the edict, sick or well, faced the stake.[16]

In 1377, the city-state of Ragusa developed a public health service for the temporary isolation of passengers and goods from ships. The service called for the hiring of a physician, two surgeons and an apothecary. In 1397, a former monastry on an island was converted

11. Musto, p. 102. Robbins, p. 402.

12. Charles E. Rosenberg, *The Cholera Years: The United States in 1832, 1849, and 1866* (Chicago: The University of Chicago Press, 1962) pp. 1-4.

13. Lev. 13: 2-3, 45-46.

14. H. S. Gear, "Disease Control and International Travel," *Chronicles of the World Health Organization*, Vol. 10, (1956), p. 278. John Gerlitz, "The Development of Quarantine," *CIBA Symposia*, Vol. 2, Number 6, (September, 1940), p. 566. Charles-Edward Amory Winslow, *The Conquest of Epidemic Disease: A Chapter in the History of Ideas* (Princeton, New Jersey: Princeton University Press, 1944), pp. 115-116.

15. John Gerlitz, "Forerunners of Quarantine," *CIBA Symposia*, Vol. 2, Number 6, (September, 1940), p. 565. Matovinovic, p. 226.

16. Gerlitz, "Forerunners. . . ," p. 565. Matovinovic, p. 226. Winslow, *Conquest. . . ,* p. 116.

by order of the city-state government of Ragusa into a quarantine hospital. Venice followed in 1403 setting up a quarantine station on the island of Saint Maria di Nazareth.[17] Unfortunately for Ragusa and all her sister city-states, quarantine did little to stop the plague. People and cargoes may have been isolated but the rat and its fleas were not.

Maritime quarantine was used in the American colonies and states in an effort to control three major diseases: smallpox, yellow fever and cholera. Quarantine was the result of an intuitive effort rather than a rational scientific decision. An efficient quarantine program could not be developed without knowledge of disease causing microorganisms and their vectors. However, political efforts and humanitarian concerns forced these efforts at controlling diseases.

Significant opposition arose to quarantine in nineteenth century America. Some medical professionals were skeptical of the contagion theory, the theory upon which the practice of quarantine was based. Those who were inconvenienced by quarantine, either in time or money, joined the ranks of the disaffected. Opposition arose among many who felt the effects of government intervention in their personal affairs. There was a certain degree of substance to this last objection. Many of the laws were somewhat arbitrary in nature. Governments also held the power of life and death in upholding their laws. England, as late as 1825, required the death penalty for breaking some of its quarantine laws.[18]

The contagion theory held that diseases spread as the result of the passage of some chemical or physical influence from a sick person to a well person by direct contact or through an intermediary. Most physicians had problems with this theory since numerous examples of illness existed that did not fit the rule. Miasmatists, those who believed diseases spread by way of vapors or miasmas from rotting matter, totally disagreed with the concept of contagion. They fiercely objected to quarantine regulations as a method of controlling disease. Their opposition was supported by the fact that quarantine, until the late nineteenth century, tended to fail about as often as it worked.[19]

Philadelphia's Benjamin Rush was one of the major opponents of the theory of contagion and proponent of sanitary reform. Rush, writing in the *American Daily Advertiser* on August 29, 1793, offered this explanation of the "obvious" causes of disease in general:

> . . . morbid exhalations, it is well known, produce fevers at the distance of two and three miles, where they are opposed by houses, woods, or a hilly country. This is obvious to all farmers who live in the neighborhood of millponds. It is no new thing for the effluvia of putrid vegetables to produce malignant fevers. Cabbage, onions, black pepper, and even the mild potato, when in a state of putrefaction, have all been the causes of malignant fevers. The noxious quality of the effluvia from millponds, is derived wholly from a mixture of the putrified leaves and bark of trees, with water.[20]

Philadelphia's devastating 1793 yellow fever epidemic was also the result of "exhalations." The particular sources of the disease included the city docks, foul air in ships, filth in residents, and rotting material in the drinking water. Rush noticed the large number of mosquitoes during the epidemic. However, he did not see the importance of mosquitoes as carriers. He felt the insects were just another example of the unusual events that foreshadowed the disease itself.[21]

Rush ran into direct opposition with the College of Physicians in Philadelphia. The College, in November of 1793, issued its considerations of the causes of the yellow fever epidemic:

> . . . this disease was imported into Philadelphia, by some of the vessels which arrived in the port after the middle of July. . . . No instance has ever occured of the disease called the yellow fever having seen generated in this city, or in any other parts of the United States, so far as we know: but there have been frequent instances of its having been imported, not only into this, but into other parts of North America.[22]

Rush countered that in the West Indies yellow fever was not endemic. The disease existed only near marshlands where there was vegetable putrefaction. If the same cause, rotten coffee, existed in Philadelphia; if the same conditions, hot summer weather, existed in Philadelphia; then, the same disease would also exist.[23] Rush could not see the infectious nature of yellow fever, or any other disease. He therefore had a great deal of difficulty with the concept of quarantine.

Rush was influenced by the work of Connecticut's

17. Matovinovic, p. 227.
18. Gear, pp. 225 & 276.
19. Winslow, *Conquest. . . .*, p. 182.
20. *Ibid*, p. 197.
21. *Ibid*, p. 198.
22. Winslow, "The Colonial. . . ," p. 34.
23. *Ibid*, p. 35.

Noah Webster. A lawyer, school teacher and lexicographer, Webster, according to C. E. A. Winslow, brought epidemiological thinking in the eighteenth century to its fruition. His *Epidemic and Pestilential Fevers* was the best statement of the theory of the time. Webster contended that people contract diseases without being exposed to other disease victims. There had been too many epidemics, according to Webster, that had spread far too rapidly to be caused by some form of contagion. Further, individuals who have been directly exposed to diseased people do not necessarily contract the disease. Many diseases remain in one section of a community rather than attacking the entire community. Diseases are associated with certain seasons. Contagious diseases would not be affected by changes in the weather, becoming dormant during one season and reviving during the next.[24]

The arguments offered by both Webster and Rush are not as illogical as they might appear. Without the germ theory of disease, the conclusions reached by these two men made excellent sense. However, neither man went without opposition. Drs. Eneas Munson and Elijah Munson of New Haven were among those who disagreed with Webster. Following the New Haven 1794 yellow fever epidemic, Eneas Munson noted that the pestilence and plague did not necessarily occur around a battlefield where thousands of bodies might be putrefying or in the area of a churchyard where bodies, although buried, had not received embalming care. Elijah Munson noted that in the early stages of the New Haven epidemic no one contracted the disease who did not directly attend someone who already had the disease. The disease itself, noted Elijah Munson, did not begin until a family living on Long Warf, contracted yellow fever. The family home was a short distance from where the vessel believed to be infected with yellow fever from Martinique had tied up.[25]

Rush and Webster believed that sanitary reform was a far better way of controlling disease. The belief in sanitary reform, over efforts at controlling contagion, continued to be the primary mode of thought well into the nineteenth century. Henry G. Clark, a surgeon at Massachusetts General Hospital argued, in 1852, that the European measures of sanitary reform should be adopted at the expense of the "obsolete system of quarantine."[26] Clark pointed to the lack of sanitary conditions in the various cholera epidemics that ran through America and Europe. He could not, at that time, see the connection between bacteria in human wastes, and the contamination of food and water. Epidemics were, according to Clark, the results of the "shears of fate . . . one blade being the atmospheric influence, the other, the local preparation to receive it; both being necessary to the full development of the disease."[27]

An appropriate theory of contagion, combined with sanitary reform could have worked together to prevent the great losses of life due to smallpox, yellow fever and cholera. However, the eighteenth- and nineteenth-century theory of contagion, which held that diseases were passed from one person to another as a result of chemical disturbance or some unknown physical factor, could not work. What was needed was knowledge of an invisible organism that could be the cause of the disease. Theories of contagion were considered centuries before the time of Rush and Webster. The concept of *contagium animatum* were presented by Fracastorius in 1546, by Cardanus in 1557 and Kircher in 1658. Leeuwenhoek, using his very primative microscope, discovered microorganisms late in the seventeenth century. Pleniz separated diseases into three categories in 1762: those that were contagious and epidemic, those not epidemic but contagious, and those that were epidemic and only partially contagious. He further contended that the cause of these diseases must be small "animalculae" along the lines of those discovered by Leeuwenhoek.[28]

A series of events occured in the nineteenth century lending to acceptance of a germ theory. Pasteur proved, in 1862, that the idea of spontaneous generation, the concept that living organisms generated out of thin air instead of the result of sexual or self generation, was incorrect. Koch ushered in the bacteriological age by proving, in 1876, the essential role of bacteria in anthrax. The theories of the miasmatists rapidly lost ground after these discoveries.[29]

24. *Ibid*, p. 231.
25. *Ibid*, pp. 212-213.
26. Henry G. Clark, *Superiority of Sanitary Measures Over Quarantine* (Boston: Thuston, Torry, and Emerson, 1852), p. 4.
27. *Ibid*, p. 29.
28. Winslow, "The Colonial. . . ," pp. 21, 46-47.
29. James A. Doull, "The Bacteriological Era (1876-1920)," *The History of American Epidemiology*, (St. Louis: The C.V. Mosby Company, 1952), p. 74.

American Quarantine Legislation

The American colonies' first quarantine legislation was the 1647 Massachusetts law. The law was initiated by reports of a yellow fever epidemic in Barbadoes:

. . . it is therefore ordered, yt all our own or othr vessels comeg from any pts of ye West Indies to Boston Harbor shall stop and come to an anchor before they come at ye Castle, undr ye poenalty of 100 and that no pson comeing in any vessell from the West Indies shall go a shore in any towne, village or farme, or come within four rods of any other prson, but such as belongs to the vessels company yt hee or shee came in, or in any wayes land or convey and goods brought in any such vessels to any towne, village, or farme aforesaid, or any othr place within this jurisdiction, except it be upon some island where no inhabitant resides, without licence from ye councell, or some three of them, undr ye aforesaid poenalty of a hundred pound for every offense.[30]

The quarantine laws were not ultimately successful, witness the above mentioned 1693 yellow fever brought in by the British fleet from Barbadoes. A similar bill was passed in 1699 and disallowed for interesting reasons:

There is no such act as this (that we know of) in any other of his majesty's plantations: And by the uncertain interpretations which may be put upon the terms Contagious, Epidemical and Prevailing Sickness, we think it may be liable to great abuses; . . .[31]

The Lords of Trade, in their request to the Privy Council for disallowance, seemed to be concerned with the excessive degree of independence shown by Massachusetts.

Efforts were made to develop a national quarantine policy following the creation of the Republic. These efforts failed when the individual states successfully convinced Congress that they were capable of dealing with shipborne disease at the local level. However, the first federal quarantine law, passed on May 27, 1796 gave the President authority to help states carry out their quarantine requirements.

. . . That the President of the United States be and he is hereby authorized, to direct the revenue officers and the officers commanding forts and revenue cutters, to aid in the execution of quarantine, and also in the execution of the health laws of the states, respectively in such manner as may to him appear necessary.[32]

A developing bureaucracy could not let such a brief statement stand. The length of the February 25, 1799, Quarantine Bill is, while supporting the 1796 Bill, more in keeping with what might be expected of Congress. The new law like the old, required customs officials to support the enforcement of state quarantine laws:

. . . That the quarantines and other restraints which shall be required and established by the health laws of any state, or pursuant thereto, respecting any vessels arriving in, or bound to any port or district thereof, whether from a foreign port or place, or from another district of the United States shall be duly observed by the collectors and all other officers of the revenue of the United States, appointed and employed for the several collection districts of such states respectively, and by the masters and crews of the several revenue cutters, and by the military officers who shall command in any fort or station upon the sea coast; . . .[33]

Some further responsibilities were added. The Secretary of the Treasury could vary the requirements of local regulations to fit particular situations. The port of entry of a vessel could be changed to get around a particular epidemic situation. Warehouses could be requisitioned to store cargoes removed from quarantined ships. Federal personnel and prisoners could be removed from a port affected by epidemic diseases.

Local customs officials received further instructions on how to deal with the new legislation from the Treasury Department. John Steele, the Comptroller of the Treasury, issued a circular letter to all collectors and Naval Officers on May 27, 1799. The letters provided general advice on a number of new laws. He had little specific instructions concerning the quarantine laws. He did, however, express the Treasury Department's expectations that individual customs officials would do their best to abide by the law.[34]

Secretary of the Treasury Oliver Wolcott provided particular instructions to David Austin, the Collector of the District of New Haven, in a letter sent on July 13, 1799. If the letter of Austin is typical of the other letters sent to local collectors, it can be assumed considerable concern existed over the change of port of entry ruling and care of revenues from ships. Wol-

30. Morris G. Lekind, "Quarantine in the United States," *CIBA Symposia*, Vol. 2 (1940), p. 581.

31. *Ibid.*

32. U.S. Congress, 4th Cong., 1st Session, May 27, 1796, "An Act Relative to Quarantine."

33. U.S. Congress, 5th Cong., 3rd Sess., February 25, 1799. Chap. XII "An Act Respecting Quarantines and Health Laws."

34. "Steele to Naval Officers and Surveyors, May 27, 1799." National Archives Microfilm Publication Number 178 *Correspondence of the Secretary of the Treasury with Collectors of Customs 1789-1870* Roll 32, (Washington: National Archives and Records Services, General Services Administration, 1956).

cott believed that considerable authority and autonomy lay with the local collectors.

> Thus regulations must be such, as will reconcile the objects of the State Laws for the conservation of Health, with absolute security to the revenue and at the same time to be as little burdensome as possible to trade, the plan which you may approve, you will be pleased to transmit for consideration, if any alarming sickness should appear you will however in the mean time exercise your best discretion in respect to the modes of conducting the public business.[35]

Pressure continued to place authority for quarantine in the hands of the federal government. Congress continued to refuse to take that authority. That states could hold authority for quarantine was upheld in an 1824 Supreme Court decision. In *Gibbons v. Ogden*, the Court contended that the states were better capable of providing for the health of their people. It was true that the law might affect commerce, which was the responsibility of the federal government. The quarantine laws, however, were not intended to control commerce but rather to control the spread of disease. Chief Justice John Marshall, speaking for the Court, commented:

> The [inspection laws] form a portion of that immense mass of legislation, which embraces everything within the territory of a State, not surrendered to the general government: all which can be most advantageously exercised by the States themselves. Inspection laws, quarantine laws, health laws of every description, . . . are components of this mass. No direct general power over these objects is granted to Congress; and consequently, they remain subject to State legislation.[36]

No further effort was made to give responsibility for quarantine to the federal government until 1866. Interestingly, both contagionist and miasmatists joined forces in working for such a law. The contagionist believed that quarantine had to be uniform in order to be successful. The miasmatists were disturbed with the extremely strict local laws which they believed could lull people into a false sense of security. The bill that resulted from this lobbying effort was defeated. The proponents of states' rights had recently lost a war with the proponents of a strong central government. But Congress still felt there were certain tasks best left to local governments.[37]

A number of laws were produced over the next few decades providing help, on a short term basis, to deal with specific epidemics. The law of 1878, "An Act to Prevent the Introduction of Contagious or Infectious Diseases into the United States," was the result of the 1873 cholera epidemic that ran rampant through the Mississippi Valley and the lobbying of such groups as a convention of local/municipal health officials held in Jacksonville, Florida, in March of 1878. This act was the first real effort by Congress to place the responsibility of preventing the introduction of diseases from foreign countries in the United States. The power of enforcing this act was given to the Surgeon General of the Marine Hospital Service, creating in the process the nucleus of the United States Public Health Service.[38]

The federal government took a more active role in quarantine with a law passed on February 15, 1893. The legislation, "An Act Granting Additional Quarantine Powers and Imposing Additional Duties Upon the Marine-Hospital Service" was designed to fill in where local authorities had not sufficiently provided for quarantine. State officials were still expected to take as much of a role as possible in providing for the quarantining of vessels. The new law also attempted to solve the problem of disease propagation before ships arrived in American ports. Various federal officials were given the responsibilities of issuing bills of health to ships bound for the United States before they left foreign ports.[39]

Connecticut's Quarantine Legislation

Citizens of the Colony of Connecticut were not concerned with the development of a long-term public health policy. Controlling individual epidemics was enough to occupy the minds of these seventeenth-

35. "Washington to Austin, July 15, 1794," National Archives Microfilm Publication Number 178, *Correspondence of the Secretary of the Treasury with Collectors of Customs, 1789-1870*, Roll 32 (Washington: National Archives and Records Service, General Services Administration, 1956).

36. Henry Wheaton, ed., *Reports of Cases Argued and Adjudged in the Supreme Court of the United States, February Term, 1824* (New York: Clayton & Van Norden, 1824), p. 203.

37. Michael Les Benedict, "Contagion and the Constitution: Quarantine Agitation from 1850 to 1866," *Journal of the History of Medicine* (April, 1978), pp. 179 & 192.

38. U.S. Congress, 45 Cong. 2nd sess., April 29, 1878 Chap. 66 "An Act to Prevent the Introduction of Contagious or Infectious Diseases into the United States." Rosenberg, *The Cholera Years*, p. 278.

39. U.S. Congress, 52nd Cong. 2nd sess., February 15, 1893, Chap. 114 "An Act Granting Additional Quarantine Powers and Imposing Additional Duties Upon the Marine-Hospital Service." Les Benedict, "Contagion and the Constitution: . . ." p. 193.

century men. Therefore, quarantine legislation was of an emergency nature, designed to solve individual problems. There could be little hope of developing an adequate quarantine policy in the colony without some scientific foundation upon which to base that policy. As a result, much of the effort at epidemic control remained with prayer and fasting. The number of fast days gives some evidence of the sense of impotence in controlling events seen as ordained by God.[40] Nonetheless, one of those events, a smallpox epidemic in New York in 1663, was the catalyst for passage of Connecticut's first quarantine law:

> This Court vndrstanding that the hand of God is gone out agaynst the people of New Netherlands, by pestilentiall infections, doe therefore prohibit all persons for comeing from any of those infectious places into this colony . . . And if any person shal bring a vessell from thenc and land their men or goods in any habour in this Colony, the Master of ye vessell shal forfeit Ten pounds to ye Publ: Treasury . . . And Whoeueer of or people shall goe aboard any such vessell he or she shal pay fiue pounds to ye Treasury for euery such offence.[41]

The principle of self-government returned to its place of prominence in Connecticut with the end of the New York smallpox epidemic. The General Assembly returned control of quarantine efforts to local governments on May 10, 1666:

> This Court doth commend and leaue it with ye Magestrates to settle some course to preuent infection that may happen to the inhabitants in this Colony by vessels that may come into any of our Ports.[42]

The first comprehensive quarantine act was passed by the General Assembly in 1702. A ship's master, arriving from a port where epidemic disease was known to have occured, was not allowed to tie up his vessel without a license to do so. The significance of the bill is that it did not deal with a particular disease, such as smallpox, but rather any disease from any port.[43] Further acts were passed during the next seventy years designed to improve upon the 1702 act. An act passed in 1711 provided some clarification and reinforcement of the 1702 legislation. The new act also set up a crude marine hospital. Charges for the services provided to a sick sailor were to be paid for by the community whence the man came.[44] The Act of 1732 required any ship with disease on board to announce that fact with a two foot square white flag hung in the ship's shrouds.[45] A 1756 amendment placed the responsibility on the captain of a ship coming from an epidemic port to contact local authorities within twelve hours of arrival in Connecticut.[46]

In Connecticut, smallpox was replaced by yellow fever in degree of importance by the end of the eighteenth century. New Haven suffered a terrible yellow fever epidemic nine years later in 1794. In 1795, the General Assembly passed a quarantine act placing authority in the hands of local selectmen. The bill also called for a permanent board of health in each town to deal with public health issues in general.[47] The full concept of a board of health did not come into fruition until the Amendment of 1805. The amendment required that a board of health should be made up of civil authorities and selectmen of the individual towns with full responsibility for preventing disease. Further, the boards could "Examine all nuisances and Sources of Filth as may be injurious to the Health of the Inhabitants, whether they shall proceed from . . . Vessels, Scows, or Boats. . . ." Few changes occured in quarantine legislation until the General Assembly passed a combined bill that included various acts from 1805 to 1875. Boards of health were required to have a "reputable" physician as a member. It was not required that

40. Ira V. Hiscock, "The Background of Public Health in Connecticut," *The Heritage of Connecticut Medicine*, Herbert Thoms, ed., (New Haven: The Whaples-Bullis Company, 1942), p. 138. Charles A. Lindsley, "President's Address: The Beginning and Growth of Sanitary Legislation in Connecticut," *Proceedings of the Connecticut Medical Society* (Bridgeport: 1892), p. 231. Charles-Edward Amory Winslow, "Development of the Public Health Movement in Connecticut," *History of Connecticut in Monographic Forms, Volume 5* ed., Norris Galpin Osborn (New York: The States History Company, 1925), p. 480.

41. J. Hammond Trumbull ed., *The Public Records of the Colony of Connecticut Prior to the Union with New Haven Colony, May 1665 Vol. I* (Hartford: Brown and Parsons, 1850) p. 395.

42. J. Hammond Trumbull, ed., *The Public Records of the Colony of Connecticut from August, 1665 to 1678, Vol. II* (Hartford, F. A. Brown, 1852) p. 32.

43. Charles J. Hoadley, ed., *The Public Records of the Colony of Connecticut from August, 1689 to May, 1701, Vol. IV* (Hartford: Case, Lockwood, Brainard, 1869), pp. 372-373.

44. ———, *The Public Records of the Colony of Connecticut from October, 1706 to October, 1716, Vol. V* (Hartford: Case, Lockwood & Brainard, 1872), p. 231.

45. Winslow, p. 331.

46. Charles J. Hoadley, ed., *The Public Records of the Colony of Connecticut From May, 1751 to February, 1757 Inclusive*, (Hartford: Case, Lockwood & Brainard, 1877), p. 497. Charles-Edward Amory Winslow, "Health Legislation in Colonial Connecticut," *Bulletin of the Society of Medical History of Chicago*, Vol. III, No. 4 (September, 1825), pp. 331-332.

47. Lindsley, p. 242.

boards of health include medical personnel until passage of the 1875 act. The revised act included instructions concerning quarantining ships from any foreign port or the United States south of Delaware between the months of June and November.[48] This regulation would seem to be in anticipation of the months when cholera would be rampant.

New Haven Pestilence and Quarantine

The Colony of New Haven suffered through numerous smallpox epidemics during the seventeenth century. A number of individual cholera cases occured in the nineteenth century. But the most destructive visitation of pestilence to New Haven was the yellow fever epidemic of 1794. New Haven took the lead in using the powers granted to local communities by the General Assembly to ward off ship borne disease. It was New Haven that first set up a permanent Board of Health with Health Officers who had as one of their major responsibilities the checking of incoming vessels for the presence of disease.

Although dwarfed by the maritime giants of Boston and New York, New Haven still managed to do her share of sea trading. Ninety-five percent of all incoming ships between 1795 and 1805 were from the West Indies. The remaining ships came from Europe, the southern fishing grounds and China. Thirty to forty percent of the outbound vessels sailed for the West Indies. Much of the European sailing was of an indirect triangular trade from the West Indies through New Haven. The coasting trade was primarily with New York. New Haven's southern fishing activities expired after 1801 due to the extreme length of the voyages, some as long as a year, and the poor market in New Haven.[49]

The use of expert testimony became popular late in the eighteenth century in New Haven. Doctors, such as Levi Ives and Eneas Munson, were consulted during meeting of the Common Council on matters of health. It was the advice of these men that led to the creation of a smallpox innoculation hospital in 1792. New Haven also, on the advice of its health experts, imposed restrictions on the landing of New York vessels in 1794 for fear of a smallpox epidemic from that city.[50]

The year 1794 held far worse for New Haven than just a threat of a smallpox epidemic. At first the nature of the new disease was not known. People were coming down with a number of diseases, including scarlet fever, thereby confusing the issue. It was commonly held, after the fact, that a sloop from Martinique, where yellow fever was at epidemic stages, had brought the disease to New Haven. The sloop, under the command of a Captain Truman, tied up at Long Wharf not far from a public house owned by Isaac Gorham. The public house was frequented by the ship's crew. A trunk holding a load of clothes from a crewman who had died of yellow fever was landed and inspected by the owner of a nearby store, Elijah Austin, his clerk Henry Hubbard, Captain Truman and Isaac's niece Polly Gorham. Austin, Hubbard and Miss Gorham were dead by the end of the month. When it was all over 160 people had contracted the disease of whom 64 had died.[51]

There may have been confusion during the spring of 1794. However, by late summer the Board of Selectmen began to make efforts at doing what little could be done to stem the influences of yellow fever. The Selectmen, during an August 25th meeting, first sought to stop the entry of the disease from the sea:

> That the selectmen cause prosecutions to be commenced against all such masters of vessels, who shall arrive in this port from any place, where any contagious sickness is prevalent, & shall neglect for the . . . [unreadable] . . . to give information to one of the selectmen, of the place from whence they came & of the true circumstances of the people & cargo or who shall suffer any of their people to go on shore or any property to be landed without permission from the selectmen.[52]

48. Dorothy Ann Lipson, ed., *The Public Records of the State of Connecticut from May, 1804 through October, 1805, Vol. XII* (Hartford: State Library, Published by the State, 1981), p. 301. Lindsley, p. 245. Connecticut General Assembly, *Revisions of 1875, The General Statutes of the State of Connecticut with the Declaration of Independence, The Constitution of the United States and Constitution of Connecticut* (Hartford: Cox, Lockwood and Brainard, 1875), pp. 258-260.

49. Charles F. Adams, "The Rise and Fall of New Haven Port, 1789-1814" (unpublished paper, Yale University, 1972), pp. 28, 42, & 47. Timothy Dwight, *Statistical Account of the City of New Haven* (New Haven: Walker & Steele, 1811), p. 67.

50. Rollin G. Osterweis, *Three Centuries of New Haven, 1638-1938* (New Haven: Yale University Press, 1953), p. 185.

51. Frederick H. Hoadley, *A Review of the History of the Epidemic of Yellow Fever in New Haven, Conn. in the Year 1794,* (read before the New Haven Colony Historical Society, September 24, 1844), p. 227. Dwight, pp. 62-63. Hiscock, p. 143. Winslow, "Development of Public Health. . . ," p. 491.

52. "At a Meeting of the Civil Authority & Selectmen of New Haven on the 25th of August, 1794," From MSS No. 28 in the Whitney Library of the New Haven Colony Historical Society, p. 3.

The Selectmen then appointed Doctors Ives and Munson as Health Officers to inspect all ships suspected of coming from ports with epidemics or having contagious illnesses on board.[53]

The confusion created by the yellow fever epidemic spurred the creation of a committee to study the disease. By 1806, this first true Board of Health was being chronicalized by its president, Henry Daggett. A March 17th meeting Board of Alderman gave specific responsibilities to members of the board. Isaac Tomlinson and Noah Webster were to lay out the boundaries of the quarantine grounds. Elizur Goddrich, Simeon Baldwin and John Barker were to develop regulations to be followed in case of another bout of general illness. On March 20th, Dr. Barker was appointed Health Officer.[54]

The quarantine grounds were set up some distance from Long Wharf. They were, however, well within the confines of the inner harbor. The distance to shore would not have presented a problem for a strong swimmer, although there is no record of anyone breaking quarantine in this fashion. The Board of Health's bylaws provided:

> That the northern quarantine limits for the harbor of New Haven and contiguous waters, be a line drawn from he Northeast corner of Hotchkiss' Rope Walk in Oyster Point Quarter in New Haven, to Fort Wooster on Beacon Hill, in East Haven, and that the Southern limit be a line drawn due west from the Southwest angle of the new fort (Fort Hill) in East Haven, to the Beach in New Haven Harbor, and the portion of the Harbor and contiguous waters between said lines shall be the place where vessels arriving, if need require, shall perform quarantine.[55]

The Health Officer was to visit the ship and either place it in quarantine or give it a certificate of health before the ship could proceed to Long Wharf and unload passengers and cargo.

Health Officers left behind considerable evidence of their activities when ships passed into New Haven Harbor with no health problems. A Bill of Health, such as the quarantine ground clearance for the bark *Hyperion*, allowed a vessel to tie up at Long Warf. Customs Officers would accept a clean Bill of Health before allowing the vessel to continue with its dockside activities. There are few records of ships that did not receive a Bill of Health since Health Officers issued nothing to ships not passing the inspection. However, letters between the Health Officer and the Board of Health give some insight into what happened when a Health Officer discovered some problem on an incoming vessel.[56]

The earliest record of a vessel having difficulties entering New Haven Harbor due to some health problem concerns the brig *Anna*, under the command of William Wallace. The ship entered the port early in June of 1808 and was detained on the quarantine grounds for some unspecified reason by Health Officer Henry Mead. Mead inspected the ship on June 10th and found it sufficiently clean as to ". . . with safety to the Public Health, be discharged from quarantine and be permitted to go to the Wharf at the toll bridge for the purpose of discharging the remainder of her cargo."[57]

The *Potomack*, a vessel of unspecified description, sailed into New Haven Harbor on August 4, 1810. The vessel was under the temporary command of a man named Stone. Her captain and one seaman had died enroute to New Haven. Exactly what killed the captain and seaman is not listed in any of the correspondence. However, the Board of Health was sufficiently worried about the matter as to cause the *Potomack* to stay on the quarantine grounds until the belongings of the two dead men had been properly cleaned. Two people were allowed to go ashore before the *Potomack* finished her cleaning. The acting captain was allowed to go ashore to register the arrival of his vessel. Health Board Chairman Daggett interceded on behalf of a hand, James Fanning, whose mother was "at the point of death." Both men were allowed to go ashore under sufficient security as to present no health hazard to the city. Health Officer Barker, on August 16th, reported the articles of clothing and the vessel were sufficiently cleaned as to rate a Bill of Health. The Bill of Health was authorized by the Board of Health the same day.[58]

53. *Ibid.*

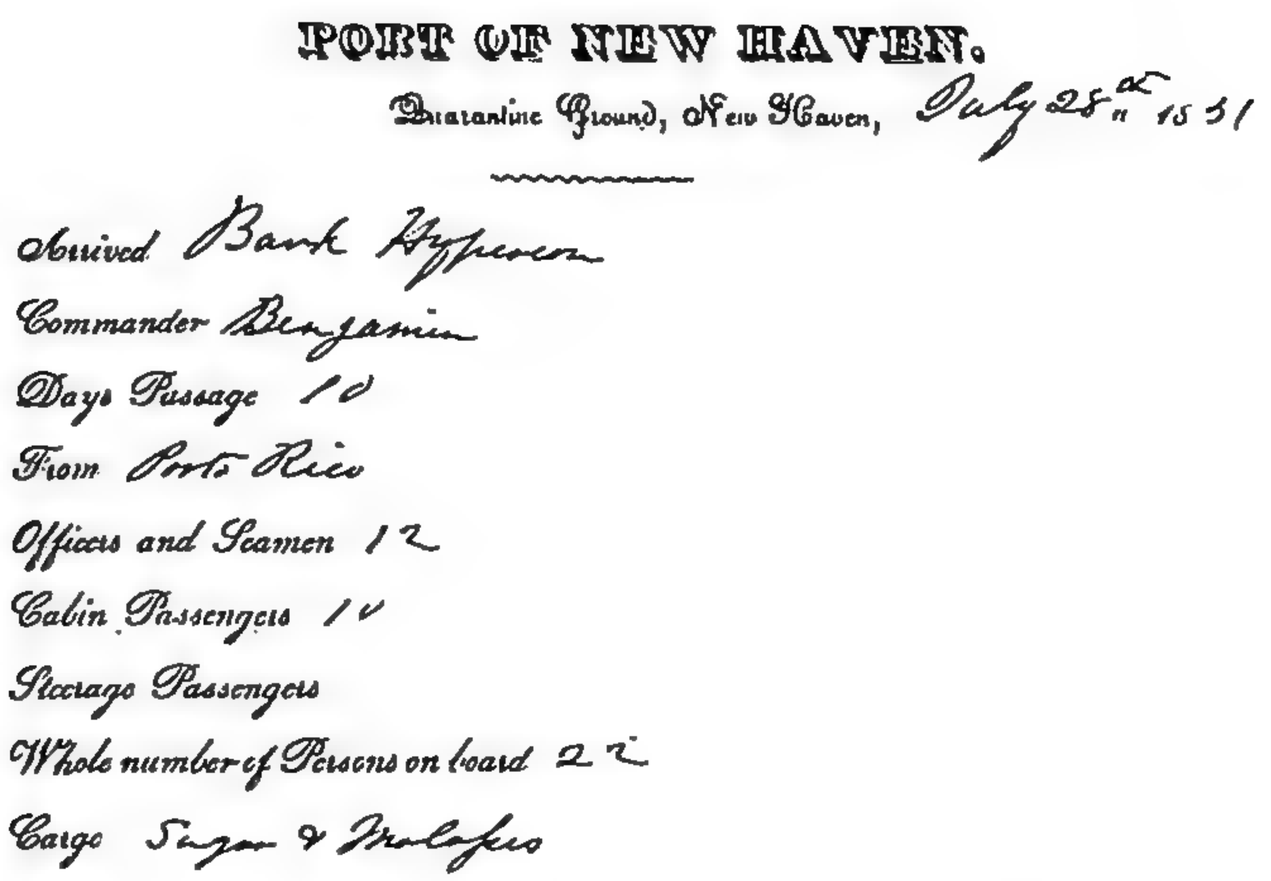
54. Hiscock, pp. 143-144.

55. Board of Selectmen, *The Charter and Ordinances of the City of New Haven Together With the Statutes Relating to the City of New Haven* (New Haven: Tuttle, Morehouse & Taylor, 1870) p. 281.

56. "Bills of Health, District of New Haven, 1836-1842 & 1851-1882," Box No. 38937, (National Archives and Records Services, Waltham, Mass.).

57. "Mead to Board of Health, June 10, 1808," from MSS No. 28 in the Whitney Library of the New Haven Colony Historical Society.

58. "New Haven Board of Health Order of Quarantine, August 4, 1810," "Daggett to Barker, August 6, 1810," "Barker to Board of Health, August 6, 1810," "New Haven Board of Health Order of Discharge from Quarantine, August 6, 1810," *Ibid.*



PORT OF NEW HAVEN.

Quarantine Ground, New Haven, July 28th 1831

Arrived Bark Hyperion

Commander Benjamin

Days Passage 10

From Ports Rico

Officers and Seamen 12

Cabin Passengers 10

Steerage Passengers

Whole number of Persons on board 22

Cargo Sugar & Molasses

Having complied with the Quarantine Laws, this Vessel is permitted to enter.

H. W. Bradshaw, Health Officer.

To be delivered at the Custom House within twenty-four hours, otherwise a permit to discharge can not be obtained.

The schooner *Chance* took twenty-four days to get home from Guadalupe in August 1810. Unfortunately she lost two hands to some unspecified illness during the voyage. The last man was lost just three days out of New Haven. The captain of the schooner had the bedding and the clothing worn during the illness of both men thrown overboard well out to sea. The rest of their clothing was marked. The *Chance* arrived on August 29th, to be met by Health Officer Barker, who felt the crew looked healthy enough. However, to be safe, he asked for the Board of Health's advice. A flurry of letters, during the same day, between Barker and the Health Board, resulted in the *Chance* being ordered to remain on the quarantine grounds. The captain of the *Chance* was allowed ashore to register the arrival of his vessel and then ordered to return. Interestingly enough, despite the fear of disease on board, the ship was allowed to unload its cargo onto a smaller boat. The crew was not to enter the unloading boat and none of the boat's crew were to go on board the *Chance*. Following the unloading, Barker ordered the ship thoroughly cleaned. The cleaning procedure probably involved the use of a bichloride solution and the burning of sulfur. Barker found things to his satisfaction when he returned three days later. Daggett ordered the *Chance* released from quarantine.[59]

The schooner *Hiram* presents a tantalizingly incomplete story. The supercargo on the *Hiram*, John Howe,[60] contracted a fever and spent most of the trip from St. Bartholomew to New Haven in his cabin. According to Barker, writing on August 29, 1810, the disease was "no doubt . . . the West India fever," which may or may not have been yellow fever. Howe was cured by the time the ship arrived in New Haven. Barker claimed that Captain Iam appeared ". . . to be feeble, but apparently without fever, ..." However, one of the hands was definitely sick. "His fever," said Barker, "originated from his exposure to the hot climate of the West Indies and the contagion to which he

59. "Barker to New Haven Board of Health, August 29, 1810," "New Haven Board of Health to Crew of Schooner *Chance*, August 29, 1810," "New Haven Board of Health Order of Quarantine, August 29, 1810," *Ibid.*

60. "Supercargo" is an abbreviation for cargo superintendent, an individual assigned to look after the owners' interests, vessel and cargo. He is not a paid member of the crew.

was exposed by the sickness of the Supercargo. . . ." Barker then asked for Daggett's advice on what to do with the *Hiram*. Unfortunately the collection of correspondence ends without Daggett's reply.[61]

At eleven in the morning on October 4, 1821, the schooner *Elizabeth* sailed into New Haven. She was owned by the New Haven concern of Prescott and Sherman and had come from some undisclosed port in the West Indies by way of New York. Captain William Little made no effort at receiving Barker for the customary health inspection. Instead, he continued into port with Barker in hot pursuit in a boat he had commandered for the purpose. Little claimed he thought the quarantine laws had expired. Barker strongly advised Little of his error. The ship was ordered back on the quarantine grounds, then ordered to undergo a thorough cleaning. We are not told of the issue's final disposition. It can be assumed that the ship was allowed into port once Barker was satisfied.[62]

The final correspondence concerns another vessel named *Chance* and again a captain William Little. It is unlikely that it is the same vessel that caused such a flurry in 1810 since the vessel, in this case, is a brig and not a schooner. The brig *Chance* sailed in with a sick hand on board on August 18, 1818. Daggett ordered the man removed to a hospital under the care of the Health Officer and two of the Selectmen. Daggett's further orders are pithy and to the point.

> Ordered-that none of the men or passengers in Vessel be permitted to come within the limits of the city of New Haven for the Space of six Days without a permit from the Health Officer, or unless otherwise ordered by this Board.

The next day, Daggett ordered the cargo landed from the quarantine grounds. He reiterated his demand that the vessel be washed before any crew member could come ashore. However, rank having its privileges, Captain Little was allowed to take his trunk and go home to West Haven.[63]

By 1800, as a result of vaccination, smallpox ceased being a major problem. Yellow fever ceased being an epidemic. The disease causing terror and panic in the nineteenth century was cholera. Cholera never approached the epidemic proportions in New Haven that it did in New Orleans. New Haven, although little affected by this frightening disease, still closely watched the path it cut through the country during its major visits in 1832 and 1849. Newspaper articles, occasionally occupying more print space than New Haven news, described the movement of the disease up the Mississippi Valley as it started each year in New Orleans. Other articles concerned how the disease caused death as far north as New York.

The Medical Association of New Haven, the second oldest in the country, created a committee in 1832 to provide the city's Board of Health with suggestions on how to treat the disease should it appear in New Haven. The committee was made up of four doctors who had treated cholera cases. The primary focus for dealing with diseases was environmental sanitation rather than microbiological control. Noah Webster, as an expert in the field of sanitary services, was appointed that year to a nuisance committee concerned with removing the locations of cholera causing conditions.[64]

The city seemed to be awaiting an onslought of cholera in 1849. In April, the *New Haven Daily Register's* "Letters to the Editors" included on anonymous individual calling on the Board of Health to do something to prevent a return of the disease. In May, the *Register* suggested that it was time to do something to prevent cholera by picking up trash. In June, the city fire department was ordered to conduct inspections for "nuisances" which might be the cause of infection. The city Health Officers provided a daily listing of the city's health status through September 19th. Doctors S. G. Hubbard and N. W. Taylor noticed the remarkable freedom from cholera the city seemed to have enjoyed.[65] There was no mention of ship inspections for cholera. However, cholera is a disease of human contamination of food and water by human waste. As such, it could be fought with concern only for sanitary conditions. If nuisances on shore were closely watched, it can be assumed that nuisances off shore were likewise closely scrutinized.

61. "Barker to New Haven Board of Health, September 14, 1814," from MSS No. 28 in the Whitney Library of the New Haven Colony Historical Society.

62. "Barker to New Haven Board of Health, October 4, 1811," "New Haven Board of Health Order of Quarantine, October 4, 1811," *Ibid.*

63. "New Haven Board of Health re Brig *Chance*, August 17, 1818," "New Haven Board of Health re Brig *Chance*, August 20, 1818," *Ibid.*

64. Hiscock, p. 145.

65. *New Haven Daily Register*, p. 2, April 10, May 8, June 2, July 31 to September 19, 1849.

Conclusion

Success in controlling the spread of disease by quarantine was directly related to knowledge of the methods of disease propagation. Medical professionals, as late as the late nineteenth century, were stumbling along with a belief in the "exhalations" of rotting matter as the source of disease. Quarantine could only be moderately successful with such ideas. The successes of quarantine would increase, however, as the theory of contagion melded into the germ theory. Yellow fever and smallpox ceased being a problem for New Haven as knowledge of the methods of controlling the diseases increased. Cholera did not present the problem it posed for other communities in part due to socio-economic and climate differences. However, credit for the success in defeating the disease must also be placed on New Haven's strong public health efforts.

Sailing vessels of various sizes entered many other ports on Connecticut's coast. New London/ Stonington saw large numbers of vessels from the whaling grounds as well as the overseas trades. Ports south of New Haven, such as Black Rock and Norwalk, engaged in a brisk coasting trade. It was New Haven, however, that took the lead in trying to prevent the spread of diseases from the sea. New Haven was the first Connecticut city to set up an official board of health. The men who composed that board managed to maintain a preeminence in public health, making use of the authority given them by the General Assembly and the city government. The governmental bodies may have been driven by humanitarian concerns or just political expediency. But, the medical organizations and individual professionals were motivated by a strong desire to prevent the pain that man has had to suffer due to medical ignorance.

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Reform in the United States Navy: The "Plucking" of Officers in the Latter 1850s

HOWARD C. WESTWOOD*

IN February 1855 Congress provided the President with a machinery to rid the Navy's active service of officers then on the roster but deemed unfit. The ridding that resulted, referred to as "plucking," caused an outburst of indignation among many in the Navy and even in Congress. What happened is an important chapter in the Navy's history.

In the decades after the War of 1812 the Navy's role had shifted dramatically. From a handful of ships that won dramatic combat victories, it had become a substantial fleet protecting and furthering commercial enterprises. Episodes of war had been minimal. For a few years in the 1820s naval squadrons had been active in the Caribbean suppressing piracy. And, of course, the Navy had played a part in the Mexican War of 1846-48. Yet even in that war its combat role had been very limited. Nonetheless there were naval officers who realized that the Navy's strength should not lag, whatever its immediate missions from time to time. Indeed, the outcome of the Mexican War made that strength more than ever vital, for the vast Pacific became as important to the nation as the reaches of the Atlantic. Among those officers there were such as Matthew F. Maury, who diligently studied survey methods, learned hydrographic skills, and charted ocean winds and currents. Also there was Charles Wilkes, who explored the vast reaches of the Pacific, the Antarctic, and the northwest coast of North America that provided information of immense value to merchants, sea captains, and whalers. Too, there were officers such as John Dahlgren, who studied naval ordnance, and others, such as Matthew C. Perry, who became proficient in steam navigation. Indeed, a small, but disparaged, group of officers became steam engineers, looking to the day when shellbacks finally would admit that steam propulsion had a place in a fleet that still was driven by wind on sails. Even absent formal warfare, the Navy needed such officers, and needed also to develop younger ones to follow their lead, for the demands of the nation's commerce were growing rapidly on the west coast of South America, the Mediterranean, China, and finally Japan.[1]

Yet there were problems that, as the 1850s were dawning, seriously concerned Secretaries of Navy. Officers of quality, such as those just referred to, were all too few. Even as demands on the Navy were increasing, the quality of its officers, over-all, seemed declining. Furthermore, as the perceptive could see, there was the prospect of development of steam propulsion and even the possibility of armor-clad ships that could revolutionize the means for naval power. But there was a looking-backward conservatism pervading the Navy's bureaucracy. These problems Secretaries of Navy felt that they could not solve, that solution could come only from action by Congress.[2]

The problems had been created by the sheer strength of Navy tradition. The Executive always had had the power to dismiss or demote or promote a Navy officer for any reason or no reason. Yet, with rare exceptions, dismissal or demotion had happened only on

* I am most grateful to Dr. William S. Dudley, head of the Early History Branch of the Navy Department, who suggested this subject and led me to significant material. I also appreciate the aid of the late Eugene Nabors, of the Library of Congress, in the search for documents. But neither is responsible for my interpretations or mistakes.

1. John H. Schroeder, *Shaping a Maritime Empire: The Commercial and Diplomatic Role of the American Navy, 1829-1861* (Greenwood Press, Westport, Conn., 1985), *passim*.

2. The conditions prompting concern of Secretaries of Navy are well summarized in *Paullin's History of Naval Administration*, a collection of previous articles by Charles Oscar Paullin (Naval Inst., Annapolis, 1968), 239-40. See also annual reports of the Secretaries from 1850 through 1854. Sen. Exec. Doc., vol. 1, 31st Cong., 2d Sess., 199-203; vol. 2, 32d Cong., 1st Sess., 11; vol. 2, 32d Cong., 2d Sess., 323; vol. 3, 33d Cong., 1st Sess., 311-14; vol. 2, 33d Cong., 2d Sess., 393-94.

[illegible] Yet it seemed clear that compensation, when not on active duty afloat or ashore, should be at a reduced rate. So the Navy had a two-part pay pattern. For each officer grade there was active duty pay and a lower rate for the time between duty assignments. An 1835 statute had specified those rates that were still in effect in the 1850s.[4] The lower rate, called "leave pay," was meant to be enough for an officer to get along comfortably, with family, between his duty assignments. The recipient retained his seniority position on the officer list. Providing him an opportunity to be human, with family, was no warrant for its loss.

[illegible] slowly, mainly from death or resignation. And adding to numbers in the grades was ended in 1842 when Congress enacted that the Navy's officers "shall not be increased beyond the number in the respective grades" on January 1 of that year.[3]

This regime tended more and more to slow officer promotion, discouraging the ambitious, some whom the Navy ill could lose, resigning. Moreover, as time went on, there was increasing cluttering of each officer grade with men not meeting the full demands of Navy service. A good many officers had begun their service in early youth; among them, and among others as well, some eventually proved of limited talent or of weak character or developed debilitating physical problems. Moreover, old age could seriously limit the scope of performance.

A device long employed in effort to maintain the Navy's efficiency was the high command's putting an inefficient officer on leave, with no active duty, and keeping him there indefinitely, in some cases for the rest of his life, providing to his juniors challenging duty opportunity even without grade promotion. But the device was a distortion of the Navy's leave system.

In the Navy leave was required because, if an officer were to have home and family, he could not be kept constantly on sea duty. Indeed, a sea mission sometimes could be for a year or more, making respite ashore especially essential. Moreover, shore duty between sea missions often was not readily available.

Thus leave, with its rate of pay, was designed for the officer in normal service. To apply it as a means for handling the inefficient officer intended to be kept inactive indefinitely or even permanently had two obvious defects. A given officer, on his inefficiency becoming discerned, might not have been in service long enough to merit pay equal to that provided the able officer between his active missions, or his inefficiency might have developed from a character weakness making such pay utterly inappropriate. Moreover the leave pay was sufficiently generous as to give reason to believe that some officers pretended inability for activism or at least withheld effort to restore ability. A second defect was the maintaining, for the officer on leave, of his place on the officer list, on occasion even including grade promotion. Surely that was inappropriate for an officer whose active service possibility was nonexistent or, at best, remote. And for him to continue retarding promotion of juniors vigorously doing duty was a near absurdity.

There was one other pay rate, "furlough pay." It was a rate, for each officer grade, one-half of its leave pay. The 1835 statute provided that an officer could be put on furlough, with that pay, but only "at his own request." However, in 1845 a further statute provided that the officer's consent was not requisite.[5] Thereafter, now and then, the Executive imposed furlough pay, sometimes for a limited period, sometimes indefinitely. It is not clear what principle was being evolved by the Executive during these latter years in imposing furlough pay. Senator Stephen Mallory of Florida, after he had become Chairman of the Committee on Naval Affairs in 1856, said that the power to furlough had been exercised only "where an officer

3. *U.S. Stat.*, 5:500; James E. Valle, *Rocks & Shoals—Order and Discipline in the Old Navy 1800-1861* (Naval Inst., Annapolis, 1980), 13.

4. *U.S. Stat.*, 4:755-57.

5. *Id.*, 4:756-57; 5:794 (sec. 6).

has rendered himself amenable to censure."[6] It is evident, however, that there was furloughing also in the case of blameless officers who had simply become inefficient due to some physical problem or ineptitude, similar to the imposing of leave pay in such cases. Apparently what was evolving during these latter years was a resort to the very low furlough pay where the officer's fully active prior service was deemed not to have been long enough to merit the more generous leave pay. In any event, just as in the case of the imposing of leave, ordering an officer on furlough seems usually not to have affected his relative position on the officer list, so continuing to retard juniors' promotion.

In sum, with antipathy to a system of retirement, with firm attachment to seniority as the basis for promotion save in the rare case, and with a growing share of the limited number in each grade occupied by men on indefinite or even permanent leave or furlough, by the 1850s the problem of maintaining quality in the officering of the Navy had become gravely acute. As early as 1846 Secretary of Navy George C. Bancroft had gone so far as to set up a board of officers to consider having promotion based on merit. However, he was met with defiance by a leading board member and abandoned the proposal. But he and succeeding Secretaries earnestly advocated one or another step to lessen seniority as all determinative or to move aside the unfit. Strongest was such advocacy by President Franklin Pierce's Secretary of Navy, James C. Dobbin, in an extensive discussion in his initial annual report, that of 1853, reemphasized in his 1854 report.[7]

In Congress, too, notably in the Senate, there had been members deeply troubled about the reign of seniority regardless of ability. As long before as 1844 and again in 1853 and in 1854 the Senate had passed bills designed to come to grips with the problem.[8] But no measure had been adopted by Congress until that of February 1855 on the very eve of the March 3 ending of the 33d Congress.

On January 29, 1855, Senator Mallory, for the Senate Committee on Naval Affairs, reported what he said was a "bill of the Navy Department, concurred in by the committees of the two houses."[9] On February 2, though that was a private bill day, Mallory requested unanimous consent to take up the bill and briefly explained it. A few minutes later the bill was taken up and, without debate or count of votes, was adopted. It provided for a board of Navy officers, to be selected by the President, composed of five captains, five commanders, and five lieutenants. The board was to appraise the efficiency of the Navy officers at that time who were captains, commanders, lieutenants, masters, and passed midshipmen. (Captain was then the Navy's highest grade. A passed midshipman was a midshipman who had become eligible for promotion.) No procedure, such as notice and hearing, was specified. The full board would appraise the last three categories; its captains and commanders would appraise the commanders; only its captains would appraise the captains. The board then would report to the Secretary of Navy those officers appraised as "incapable of performing promptly and efficiently all their duty both ashore and afloat," meaning that they should be retired from the active duty list and put on a newly created reserve list; for each such, the report would recommend whether his pay should be at the leave or the furlough rate for his rank. If the appraisal and recommendation were adopted by the President, the officer also would be ineligible for future promotion, though he would be subject to Navy Department orders "at all times for duty." Most important, the officer on the reserve list would not be in the count of numbers for each grade subject to the limit imposed by the 1842 statute; his reserving meant an opening for promotion of a junior remaining on the active list "in the order of rank or seniority." The promoted officer, when in active service, would be paid at the rate of his new position, but when unemployed would be paid at the leave rate of his former position. It was thought that adoption of the measure would not increase materially the Navy's total outlay for officers' pay, including the pay to those on the reserve list; it was assumed that there would be no large number on that list.

6. *Cong. Globe*, 35th Cong., 1st Sess., 239. (Hereafter the *Cong. Globe* will be cited as *C. G.*)

7. Sec. Bancroft's action and its frustration were recounted by Sen. Mason of Virginia in course of the Senate's 1856 debate that I refer to later. *C. G.*, 34th Cong., 1st Sess., 1266. (Hereafter the *C. G.* citation absent a reference to the Congressional session will be 34th Cong., 1st Sess.) The advocacy of Secretaries of Navy is reviewed, with quotations, in a report of Feb. 25, 1856, of the Senate Committee on Naval Affairs, Rep. Com. No. 8, 34th Cong., 1st Sess., 2-14. See also discussions in the annual reports of the Secretaries from 1850 through 1854, cited above; Dobbin's are the last two of these references.

8. The several Senate actions are well summarized in remarks of Sen. Bayard of Delaware in the 1856 debate. *C. G.*, App., 558-59.

9. *C. G.*, 33d Cong., 2d Sess., 434; report of Jan. 29, 1855, of the Senate Committee on Naval Affairs, Rep. Com. No. 444, 33d Cong., 2d Sess.

In the House, quite soon, on February 13, its Naval Affairs Committee favorably reported the Senate measure with some amendments, the key amendment indicating that Senator Mallory has misunderstood somewhat when he had informed the Senate that the bill had the concurrence of the House committee. That amendment provided a very important addition to the scope of recommendations that the board could make. It would include the dropping from the Navy of an officer whose incompetency the board believed "has arisen from any cause implying sufficient blame on the part of the officer to justify it;" if that recommendation were adopted by the President, the officer's Navy status would end entirely, without provision even for severance pay. On that same February 13 the measure was brought to a vote after an explanation by the committee chairman and but very limited debate; it was adopted by a vote of 116 to 46.

Thus the measure was returned to the Senate and came to the floor on February 26. This time two Senators spoke in opposition, directed at the House's dropping amendment, arguing the wrong of dismissal from the Navy without notice and hearing. Quickly, however, with Senator Mallory's strong support of the House action, the question of concurring in the key House amendment was put to a vote; on a count of the yeas it was apparent that they would exceed any nays from Senators present so the nays were not called for, and thereupon the full measure as amended by the House was concurred in without yeas and nays. Two days later, on February 28, the President approved the act.[10]

So, in the rush toward the March 3 closing of the Congressional session, an important change in the tenure status of existing Navy officers was provided for, with but minimal debate and the likelihood that not a few of the legislators had scant comprehension of what was afoot. It may be that some Navy officers, who were about when the measure was suddenly proposed and quickly pushed through, had an impression of what might occur. Indeed, Commander Samuel F. DuPont, who had long favored considerable reform in the officer corps, happened to be in Washington at the time, was in close touch with Secretary Dobbin, and did some lobbying for the bill. It probably was mainly his activity that led the *New York Herald,* while the bill was moving through Congress, to praise it and declare it "quite popular with many officers" in Washington.[11] But there is no indication that there was any general impression, among many Congressmen or Navy officers or press, that anything drastic was in prospect.

Secretary Dobbin would recommend to the President the officers to be made board members. The new statute was much along the lines of what he had recommended in his 1853 report; principal differences were that he had recommended that the "plucking" be done "periodically," not just once as the statute provided, and that the authorized Presidential action on a board recommendation include "modification" as well as approval or disapproval. Actually, back on January 31 Dobbin had strongly endorsed the bill that then had just been introduced in the Senate, even though it had not provided for the dropping of an officer as his report had recommended.[12] With the provision for dropping added by the House, it is evident that Dobbin was even more fully in accord.

In recommending board membership Dobbin did not act hastily. Not until June 2 did he transmit his recommendation. The President immediately approved it and on June 5 Dobbin notified the appointed officers, directing them to convene in Washington. They were an able group, the senior member, and so the head, being the highly respected Commodore William B. Shubrick. (In the Navy, leading captains were called commodores, but that was not a different statutory grade.) Also included was Commander DuPont, who

10. Initial Senate action, *C. G.,* 33d Cong., 2d Sess., 535-36; House action, *id.,* 708-15; final Senate action, *id.,* 937-39; the statute, *U.S. Stat.,* 10:616-17. A word of explanation: Sec. 4 of the act provided that it was not "to increase the aggregate number of officers." Since an officer on the reserve list remained an "officer" that, literally read, would have meant that he would be continued in the count of the number of officers allowed in each grade. But that reading would have largely frustrated the purpose of the act, so the section was taken to mean only that the number allowed on the active list was not increased; the officer on the reserve list would not be counted. In December 1856 the Attorney General upheld that interpretation. Opinions of Att'ys Gen., VIII:223-38, at 235-36.

11. James M. Merrill, *DuPont—The Making of an Admiral* Dodd, Meade & Co., N.Y., 1986), 217-18; Joseph T. Durkin, *Stephen R. Mallory: Confederate Navy Chief* (U. of N.C. Press, Chapel Hill, 1954), 66.

12. Annual reports of the Secretary of Navy, Dec. 5, 1853, 311-14, and Dec. 4, 1854, 393-94; Dobbin to Sen. Gwin and to Rep. Bocock, Jan. 31, 1855, Letters Sent to Cong. by Sec. Nav., vol. 13, 10, Nat. Arch., RG 45, entry 5. Sen. Mallory later said that the Senate committee at first had framed a bill providing for a board review of the officers every five years, but decided on only a one-time review to see how it worked. *C. G.,* App., 584.

had been conferring with Dobbin on the selection of board members.[13]

On June 20 the board—it came to be called the Efficiency Board—was convened, and Shubrick requested of Dobbin "the instructions" for executing its mission. Dobbin, in response, interpreted the statute to require appraisal of an officer's "capacity to perform 'all duty,' 'ashore and afloat.' " The statute itself said that appraisal was to be of officers' capacity to perform "all their duty both ashore and afloat." Obviously that could be interpreted to mean all the duty that had been actually assigned a given officer. But Dobbin's instruction, by omitting "their" before "duty," making it "all duty," seemed to say that the appraisal was to cover the capacity to perform any and every task that might ever be assigned an officer at any time anywhere. In any case, in the Navy there was professed something of a tradition that an officer should be capable of performing the full scope of potential duty, notably the varying demands of the seas. On another point Dobbin's letter read something into the statute that later would be seriously challenged by various Congressmen; he gave great emphasis to judging an officer's capacity "of performing promptly and efficiently" in light not only of his mental and physical powers but of his "moral perception of right and wrong." Dobbin also was at pains to emphasize that putting an officer on leave pay, as distinguished from dropping him, was "no degradation," but "rather a high compliment," a "generous act," saying to "the meritorious officer" who had "become incompetent to the severe duties of naval life" that "you can rest from the labors of your profession, without care or anxiety as to your support." Nor, he added, was placing the officer on furlough pay "necessarily a degradation," for that may have been done simply because he had not served "so long and faithfully . . . as to entitle him to the highest compensation." Dobbin's instructions closed with the requirement that, until the President's ultimate approval or disapproval, all information concerning the Board's proceedings was to be kept confidential.[14]

The number of officers, other than the Board members, in the grades subject to the Board's review was 704. That confronted the Board with a huge undertaking, so immediately, on June 21, it requested of Dobbin the names of those who seemed, from the records, unable properly to perform their duties, the cause of disability, "and any other information" that might aid the Board. But Dobbin's response said only that he had issued instructions to make all Navy records available; he made clear that his opinion as to any officer's capability would not be given. It is said that the Board consulted counsel as to whether it should "take evidence and report it to the President," but that it was advised that the statute gave it no authority to take and note down evidence, and "they might be indicted for libel if they did so." So the Board forged ahead in strict secrecy, meeting daily except on Sundays and July 4, and equipped only with its individual members' prior knowledge and such information as it might happen upon from Navy records. Remarkably, in just over a month, on July 26, the Board's report was transmitted to Dobbin. It did no more than to list the names of those in each grade whom it recommended to be removed from the active list, specifying for each the recommended new status. There were 201. The total number of the existing officers (other than the Board members) for each grade and the number of them recommended for each new status were:

	Captains	*Commanders*	*Lieutenants*	*Masters*	*Passed Midshipmen*[15]
Total	63	92	321	31	197
Leave	17	21	18	15	0
Furlough	15	12	49	3	2
Dropped	3	6	19	9	12

13. Dobbin to President and President to Dobbin, June 2, 1855, Letters Rec'd by Sec. Nav. from President and Other Exec. Agencies, Nat. Arch., RG 45, M517, roll 11, item 144 of Jan.-June 1855 portion; annual report of the Secretary of Navy, Dec. 3, 1855, Sen. Exec. Doc., vol. 3, 34th Cong., 1st and 2d Sess., 11, 31; Merrill, *DuPont*, 218. The board members, in order of seniority, were Commodores William B. Shubrick, M. C. Perry, Charles S. McCauley; Captains C. K. Stribling, A. Bigelow; Commanders G. J. Pendergrast, Franklin Buchanan, Samuel F. DuPont, Samuel Barron, A. H. Foote; Lieutenants J. S. Missroon, R. L. Page, S. W. Godon, William L. Maury, James S. Biddle.

14. Annual report of the Secretary of Navy, Dec. 3, 1855, 31-35.

15. *Id.*, 36-41; *C. G.*, 416; Dobbin to Mallory, Apr. 26, 1856, (second item), Letters Sent to Cong. by Sec. Nav., vol. 13, 58-59. The numbers subject to the Board's review vary slightly as stated in different sources. The numbers I give, except for masters, were stated by Sen. Mallory during Senate debate. *C. G.*, App., 573. My figures for masters is taken from Washington's *National Intelligencer*, Sept. 17, 1855, p. 3. The number that the Board recommended be removed from the active list and the number of those in each grade are my count, based on the names listed in the Board's report published in annual report of the Secretary of Navy, Dec. 3, 1855, 37-41.

Dobbin considered the report at some length, and finally, on September 5, transmitted it to the President. His covering letter stated that the Board's "finding" could not "go into execution without the sanction of the President," so that "a safeguard is provided to protect the public service from any flagrant abuse of power." He then said that he had carefully considered the report and that, while he would be "uncandid" were he to say that as to each officer he would have "formed the same judgment" as had the Board, "without a single variation," he was so convinced of "the correctness of their opinion in a large number of the cases" that he could not withhold his approval of the report "nor advise you to do so." Thereupon the President considered the report and interviewed at least Commodore Shubrick and Commander DuPont. On September 12 he wrote Dobbin that he approved the " 'finding' of the board as set forth in their report," and directed that orders be issued accordingly. It is evident that Dobbin realized that the Board's recommendations went far beyond what anyone in Congress had thought likely, so, to protect the President, he seemed to assert that the President's role was no more than to disapprove the Board were it guilty of "flagrant abuse of power;" absent such abuse the Board's recommended action was to be accepted. The statute certainly had not said that, but more than a year later, after there had been bitter controversy about the action taken, the Attorney General opined that he was "constrained to think" that the statute had given the President no choice save to accept or reject the Board's recommendations in their entirety.[16]

So it was that well over one-quarter of the principal Navy officers were removed from the active list, 49 of them entirely dropped, with no statement whatever of the reason as to any officer. Prior to the President's action there had been but minimal leaking of the Board's doings. Yet on September 7 the *New York Times* had reported that the Board report was "startling" and would create "almost a revolution" in the Navy, but it was believed the President would approve it "without alteration." The *Times* predicted that officers adversely affected and their friends "will invoke every aid to impugn" the decision. As to a substantial number of those officers the *Times* was correct—to put it mildly.

One officer, who had been favoring reform in the officer corps, was flabbergasted on learning that he himself was transferred to leave on the reserve list. That was Lieutenant Matthew F. Maury, head of the Naval Observatory, whose pioneering work on ocean currents and related matters had won him highest esteem not only at home but abroad and who, at that time, was at one of the busiest and most productive stages of his career. At once he began registering strongest protest, even as honors continued to be showered upon him. Nor was his protest stilled in the least by his being ordered to continue as head of the Observatory. The provision in the statute that a reserved officer remained subject to orders "at all times for duty" was invoked to continue him in that duty, as was done also in several other cases. Although a reserved officer ordered to duty was paid at the full active rate during his time of duty, that was no consolation to Maury; he was determined to have "the stigma wiped out," the stigma of removal from the regular active list.[17]

16. *Id.*, 37, 41, 42-44; Merrill, *DuPont*, 220; Roy Franklin Nichols, *Franklin Pierce* (U. of Penna. Press, Philadelphia, 1931), 384-85; Opinions of Att'ys Gen., VIII:223-38, at 234. Dobbin at once began implementing the President's determination. Many of the officers were on active duty, some even abroad, so had to be recalled; that took time. Letters Sent by Sec. Nav. to President & Exec. Agencies, 1821-86, Nat. Arch., RG 45, M472, Roll 5, Mar. 22, 1855-Nov. 29, 1856 portion, 149-58, 163, 168, 170, 173-74, 182, 186, 211.

17. Francis Leigh Williams, *Matthew Fontaine Maury—Scientist of the Sea* (Rutgers Uni. Press, New Brunswick, 1963), 269-82; *New York Times*, Oct. 9, 1855, 4. Maury was one of the relatively few officers whose seniority had not won grade promotion, but because of his most notable oceanography service Congress had provided him, as it had in a half dozen other special cases, substantial compensation in addition to his regular Navy pay. Sen. Exec. Doc. 68, 32d Cong., 1st Sess., 3. Maury's case is a notable example of the significance of a reading of the 1855 statute to call for appraisal of officers' capacity to perform "all duty" rather than "all their duty," which I referred to in connection with Dobbin's "instructions" to the Board. He had suffered a crippling injury many years before that impaired his ability for sea service, Henry A. DuPont, *Rear-Admiral Samuel Francis DuPont* (National Americana Society, N.Y., 1926), 80 n. 2. But that impaired not at all his heading the Observatory. In a memorial to Congress, presented by Senator Bell of Tennessee, Maury protested an "all duty" reading of the statute, insisting that "very few officers on the Navy list would be found to stand the test of so rigid a scrutiny." *C. G.*, 271. Maury and five other reserved officers were immediately ordered by Dobbin to continue duty. Letters Sent by Sec. Nav. to President & Exec. Agencies, 1821-86, M472, Roll 5, Mar. 22, 1855-Nov. 29, 1856 portion, 156, 158, 182, 186. One of them, Lt. John N. Maffitt, had been doing notable work on the Treasury Department's Coast Survey; the Treasury authorities promptly had urged his continued duty. Letters Rec'd by Sec. Nav. from President and Other Exec. Agencies, M517, roll 12, item 127 of July-Dec. 1855 portion. While Maury knew almost at once that he and the other reserved officers kept on duty would receive full duty pay, he insisted that pay was not "everything." Maury to Wm. Blackford, Sept. 23, 1855, and Maury to "Frank," Oct. 10 and Nov. 15, 1855, Matthew F. Maury Papers, container 5, Manuscript

Maury was by no means the only officer adversely affected by the President's action who had been enjoying esteem and no little responsibility and who, utterly surprised, voiced protest. When the 34th Congress convened for its initial session, in December 1855, it was apparent that what had been done under the statute hastily adopted back in February demanded attention.

The extent of that attention was enhanced by a unique bar to progress on Congressional business during the first two months of the session. In the House the choice of Speaker consumed all that time as the newly emerging Republican party rallied forces, finally barely to overcome Democrats' control. The Speakership struggle was not ended until the 133d ballot on February 2. So, in the Senate, there was even more than the usual opportunity for speech-making and maneuver, providing fertile ground for seeding with petitions from aggrieved Navy officers, to be buttressed by many supporters, including State Legislatures and the press.[18]

By the time Congress could settle into its regular course, the fate of 201 men had become, on the Senate floor, a principal issue. It continued so until July 15, when at last the Senate took action, hardly more than a month before the close of the session. That the status of only a couple of hundred men received such extensive and intense attention by the Senate is the more notable for there were other issues, of enormous import to the nation, that were very much to the fore, especially the growing crisis over slavery in the vast western territories, particularly in Kansas. Moreover, 1856 was a Presidential election year, the time of the first national Democrat/Republican battle, and party contest was bitter. Yet on this Navy issue there was not a trace of the North/South conflict or of partisanship. One of the very first petitions to Congress by a Navy officer removed from the active list, seeking "to repair that injustice," was presented on December 8 by Free Soiler Senator Charles Sumner of Massachusetts, destined soon to be bludgeoned by a South Carolina Congressman for his "Crime Against Kansas" oration. And on January 10 the Senator who would become the Chairman of the Naval Affairs Committee in 1861 when the Republicans took over, John Hale of New Hampshire, touched off a spirited attack on the actions taken against Navy officers when he presented another such petition. As the session proceeded, such attacks found strong participants in such leading Democrats as Senator Robert Toombs of Georgia, later to be Confederate Congressman, Secretary of State, and army general, and Senator James Mason of Virginia, one day to be the Confederacy's emissary to Great Britain. Throughout the session, although a deepening sectional division in the Senate was becoming a real chasm, whenever this Navy matter arose, as it did repeatedly, that chasm was smoothly bridged.[19]

If Senators embarking on the new session of Congress had had any doubt about having to face up to the Navy question, doubt was dispelled by Secretary Dobbin's year-end annual report. As we have seen, when he had transmitted the Efficiency Board's "finding" to the President he had indicated his own dubiety about some of its recommendations, but had urged full approval. Now, however, he did a sidestep. Candidly he recognized that "it would be strange, indeed," if the Board had been "entirely free of error," and asserted "no doubt that there should be and will be found a remedy for any mistake." Also he observed that "it would be but reasonable to provide a year's pay for the officers who have been suddenly dropped." So it was no surprise that as early as January 10, during one of the first of the vigorous attacks on the Executive action on the Senate floor, Senator Mallory said that the Secretary of Navy recognized that some injustice had been done; Mallory asserted that Congress should deal with the problem. By then he was Chairman of the Naval Affairs Committee, so

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Div., Lib. of Cong. Incidentally, at the outset accounting officers questioned whether a reserved officer kept on duty could receive full duty pay. Maury to "Frank," Oct. 31, 1855, *id.* But such officers in fact received full duty pay all along, illustrated by the pay to Captain Joseph Smith, one of those reserved but kept on duty as chief of the Bureau of Yards and Docks and whose pay was maintained at the active rate throughout. Payments to Capt. Smith from 1854 through 1857, Misc. Treasury Acc'ts, 1st Auditor, Accounting Officers of the Treasury Dep't, Nat. Arch., RG 217; Capt. Smith entries in pertinent pay and service tables in *Register of the Officers of the Navy of the United States* for each of the years 1856 and 1857. In due course the Attorney General ruled that a reserved officer kept on duty was entitled to full duty pay. Opinions of Att'ys Gen., VIII:223-38, at 226-27, 235, 236.

18. *C. G.*, 335-42; *Paullin's History*, 241-42.

19. *New York Times*, Apr. 26, 1856, 4, May 2, 1856, 1; principal portions of the floor debate are *C. G.*, 200-10, 270-78, 286-90, 343-48, 351-52, 365-72, 386-88, 397-409, 416-25, 433-39, 471, 473, 631-34, 901-03, 1004-07, 1263-69, 1375-79, 1587-95, 1617-26, 1632-38; App., 242-59, 310-36, 417-28, 446-53, 490-95, 506-12, 557-70, 572-95, 947-49. Considerable reviews of the course of debate appear in Durkin, *Stephen R. Mallory*, 73-82; Williams, *Matthew Fontaine Maury*, 284-92.

afforded an opportunity to seek relief. All to be done would have to be completed by January 16, 1858.

While but six weeks remained for the Pierce administration, steps were taken immediately to carry out the new measure. The filing of officer petitions began and, on February 12, 1857, a court of inquiry was ordered to assemble on February 20. Its first hearing was begun on March 3, though, of course, it was not concluded before the next day's ending of Pierce's Presidency. But President Pierce did act under the curious provision giving him the option of nominating a furloughed officer to leave status without resort to the court of inquiry procedure. Back in December Secretary Dobbin had sent the President a resolution of the Vermont House of Representatives praising Captain Horace B. Sawyer, who had been among those furloughed by the Efficiency Board and the President. On March 2 the President nominated Sawyer and one other furloughed captain for transfer to the leave list. Senate confirmation of the Sawyer nomination occurred on March 5. The nomination of the other captain, not acted on by the Senate, was resubmitted in a few days by the new President Buchanan; it died in the Senate committee. These were the only instances of the President's resort to his limited option to skip the court of inquiry procedure.[28]

Soon two more courts of inquiry were organized, and, on through the year, the three courts were hard at it on petitions by 118 de-activated or dropped officers, rather more than the number of officers who had submitted protests to Congress but far short of the total of 201 who had been adversely affected by the Efficiency Board action. All but a very few were vigorously pursued by the petitioners at full hearing, with counsel almost always, with many witnesses, and even with depositions of witnesses who could not get to the court hearing. Generally, too, the hearing was ended with argument of counsel, often at length. In all but two cases the courts completed their work in time for President Buchanan to receive their submissions sufficiently before the January 16, 1858, deadline for his ponderment. On December 17, 1857, he transmitted to the Senate his nominations in accord with 57 of the court recommendations, and, on January 6, 1858, four more. The nominations were referred to Senator Mallory's committee which favorably reported most, but not all. Finally, however, on January 14, on a resolution proposed by Senator Jefferson Davis of Mississippi (who had been President Pierce's Secretary of War), all were approved by the Senate within the year's deadline. While Davis then moved to reconsider each one—doubtless a maneuver to assemble the needed support for his resolution of approval before the January 16 deadline—a week later the Senate decided to reconsider none of them.[29]

The reaching of the deadline, however, did not end the matter. Senator Davis, close to the President, had taken a further step that was to prove most important. On January 4 he had introduced a joint resolution that would allow the President time beyond the deadline to act on the very considerable number of recommendations by the courts of inquiry not yet being disposed of. More than that, it would enlarge the scope of the action permitted the President. The 1857 act allowed him only to approve or reject a court recommendation; Davis's bill would allow him to nominate to whatever status—furlough, leave, or active—he deemed warranted by the evidentiary record in the court proceeding, even though differing from the court's determination. The care being taken by President Buchanan, in contrast to the nearly peremptory approval by President Pierce of the Efficiency Board's doing, obviously had rather restored confidence in Presidential judgment.

Shortly Davis's bill was brought to the Senate floor. By January 13, amended only to require that a nomination pursuant to the measure and the Senate's consent had to be within six months, the bill was adopted without a vote count. Going to the House, it was passed by a vote of 122 to 51, and became law on March 10. But six months beyond March 10 was not a realistic time, for the Congressional session, and so availability of the Senate to act on nominations, would end much sooner. That problem was brought to the attention of Senator Mallory, and, on his initiative, Congress in

28. Records of the Proceedings of Courts of Inquiry, Jan. 1857-Feb. 1859, vol. 1, 1-3, 37, 128-34, Records of the Office of the Judge Advoc. Gen., Nat. Arch., RG 125; Dobbin to President, Dec. 15, 1856, and Mar. 2, 1857, Dobbin to 4th Auditor of Treas., Mar. 5, 1857, and Toucey to President, Mar. 10, 1857, Letters Sent by Sec. Nav. to President & Exec. Agencies, 1821-86, M472, Roll 6, Dec. 1, 1856-Sept. 11, 1858 portion, 34, 83, 84, 88; Sen. Exec. Journal, 10:206, 208, 228, 231.

29. Annual report of the Secretary of Navy, Dec. 3, 1857, Sen. Exec. Doc., vol. 4, 35th Cong., 1st Sess., 583; Williams, *Matthew Fontaine Maury*, 294; Valle, *Rocks & Shoals*, 70; Records of the Proceedings of Courts of Inquiry, Jan. 1857-Feb. 1859, *passim*; Toucey to Mallory, Feb. 4, 1858, Letters Sent to Cong. by Sec. Nav., vol. 13, 140-41; Sen. Exec. Journal, 10:268-70, 277, 282, 284-85, 286, 290, 291, 295, 299.

May extended the time to January 1, 1859, comfortably after the beginning of the next Congressional session.[30]

Another joint resolution was adopted in May. It provided that the operation of the 1857 act should be continued to the extent of allowing completion of any cases that had been still pending at the time of the January 16, 1858, deadline. That resolution also allowed an officer, who had been absent from the country and had not returned by that deadline, to seek relief under the terms of the 1857 act. The former of those provisions allowed completion of the two cases that had been still pending at the deadline time; the latter provided for the case of one officer who had been on foreign duty and unable to avail himself of the court of inquiry proceeding prior to that deadline.[31]

So it was that the President had much more to do. He was assisted by his Secretary of Navy, his Attorney General, and his Commissioner of Patents. The Attorney General deemed the whole program to have been illegal. In a long opinion rendered in October 1858 after much study, he asserted that the original Efficiency Board had acted illegally by proceeding without notice and hearing; he urged that all the original officers be fully restored. That opinion, however, amounted to no more than a rhetorical exercise; the Attorney General proceeded to assist in the scrutiny of individual cases, in several of which he was notably critical of the court of inquiry recommendation as not sufficiently favorable to the petitioner in the light of the evidence submitted.[32]

At length, after more examination of some 60 cases under his enlarged authority, including re-examination of several he had acted on previously, President Buchanan transmitted to the Senate on December 20, 22, and 23, 1858, a total of 38 further nominations, some for restoration to active duty, others for improved status on the reserve list. All were promptly approved by the Senate. Also, on February 8, 1859, the President submitted his nomination for restoration to active duty of the officer who had been abroad and had been given the opportunity to have a court of inquiry, which recommended such restoration; that nomination was duly approved by the Senate.[33]

One further most notable step was taken. Among the actions of the Efficiency Board approved by President Pierce there had been the removal from active duty, and putting on leave, of Commodore Charles Stewart, the most senior of all the Navy officers, a man of some four score years of age, and a legendary Navy hero. In his late years he had been in command of the Philadelphia Navy Yard. Despite the change in his status, he had been continued in that command, which involved but little effort on his part. Yet his removal "at the head of the list of captains in the Navy" had "deeply wounded" his feelings, and was branded "grossly unjust" by the New Jersey Legislature. In 1856 he had memorialized Congress in protest, but his pride had prevented his humbly begging a court of inquiry composed of his juniors for restoration under the 1857 statute. Finally, Congress and the President took action on their own initiative. By a resolution approved on March 2, 1859, Congress authorized the President, with the consent of the Senate, to confer on Stewart, "in recognition of his distinguished and meritorious service," the commission of "senior flag officer . . . on the active service list." On March 3 President Buchanan tendered that nomination and on that same day the Senate gave its consent.[34]

Also on that March 3 there took effect action by Congress providing for each officer who had suffered adverse action under the 1855 statute, but who had been benefited under the later legislation short of full restoration, such back pay as to bring his compensation to the level it would have been had his status all along been what was established under the later law.

30. *C. G.*, 35th Cong., 1st Sess., 175, 237-46, 256-70, 930-36, 948-56, 1771, 2035; *U.S. Stat.*, 11:367-68, 369; Toucey to Mallory, Apr. 20, 1858, Letters Sent to Congress by Sec. Nav., vol. 13, 169.

31. *C. G.*, 35th Cong., 1st Sess., 253, 367-69, 1087, 1538, 1958, 2017; *U.S. Stat.*, 11:369; Toucey to Mallory, Feb. 4, 1858, Letters Sent to Congress by Sec. Nav., vol. 13, 140-41; President to Senate, Feb. 8, 1859, Letters Sent by Sec. Nav. to President & Exec. Agencies, 1821-86, M472, Roll 6, Sept. 13, 1858-Aug. 21, 1860 portion, 132.

32. Sen. Exec. Journal, 11:24; Opinions of Att'ys Gen., IX:212-22, 223-34, 234-42; the Attorney General's drafts during August to October of opinion on legality of Efficiency Board procedure, and drafts during October of recommendations to President in certain court of inquiry cases, Folders 2 and 3, Oct-Nov. 1858, Att'y Gen. Papers, Reports to the President, 1853-58, Nat. Arch., RG 60; Black to Toucey, Nov. 5, 1858, 1856-1858 box, Att'y Gen. Papers, Letters Sent, 1793-1865, Nat. Arch., RG 60.

33. Sen. Exec. Journal, 11:24-26, 27, 29-30, 31, 52, 56, 828 (reference in index to Capt. Thomas Paine; his name mistakenly omitted in prior text listing of Senate approvals of nominations).

34. *C. G.*, 276, 387; annual report of the Secretary of Navy, Dec. 3, 1855, 37; *New York Times*, Oct. 30, 1855, 2; Washington's *National Intelligencer*, Feb. 2, 1856, 3; Letters Sent by Sec. Nav. to President & Exec. Agencies, 1821-86, M472, Roll 5, Mar. 22, 1855-Nov. 29, 1856 portion, 156; Sen. Exec. Journal, 11:24-25, 67, 69; *U.S. Stat.*, 11:442.

The 1857 statute, as we have noted, had provided for such back pay relief only in the case of an officer restored to active service.[35]

What finally happened, after four years, was that the number no longer on the active list was not 201 but was 137 (a very few of whom had died or resigned), as follows for each grade:

	Captains	*Commanders*	*Lieutenants*	*Masters*	*Passed Midshipmen*
Leave	21	16	31	16	2
Furlough	7	5	13	2	0
Dropped	1	2	10	4	7

Of the original 201, there were 64 restored to the active list and 29 others given status on the reserve list more favorable than the Efficiency Board had decreed.[36]

35. *U.S. Stat.*, 11:154 (sec. 6); 407 (sec. 3); 430 (sec. 8).

36. These figures are my count based on the records of the Presidential actions, with Senate confirmation, changing the status of the officers; as I have noted, the original listing of the 201 appears in the annual report of the Secretary of Navy, Dec. 3, 1855, 37-41. My figures differ from varying numbers appearing in one or another secondary source, but those numbers seem not to have been compiled from the original Executive and Senatorial records.

Superficially it would seem that those four long years had witnessed damaging turmoil in the Navy's officer corps. But it is not to be overlooked that, early in those years, enhanced opportunity suddenly had been provided for many scores of officers for whom opportunity had seemed discouragingly distant or even illusory. As a result, when, but two years after those four, the Navy was precipitated into civil war, its ability to meet the challenge had been greatly strengthened.[37]

37. Harold D. Langley, *Social Reform in the United States Navy, 1798-1862* (U. of Ill. Press, Urbana, 1967), 34-35; *In Peace and War*, ed. by Kenneth J. Hagan (Greenwood Press, Westport, Conn., 1978), 90.

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Right Whales, Not Humpbacks, Taken in Cintra Bay

RANDALL R. REEVES and EDWARD MITCHELL

CHARLES Haskell Townsend made a valuable contribution to cetology (the study of cetaceans, or whales) with the publication of four charts showing the positions of American whaleships on days when one or more whales were killed, representing 53,877 whales taken on 1,665 voyages.[1] Townsend's charts give a generally accurate impression of where the nineteenth-century whalers found concentrations of prey. However, recent investigators who have rechecked some of his original sources (logbooks and journals) have found occasional errors and inconsistencies.[2] Townsend's sample was biased toward logbooks and journals covering voyages relatively late in the American pelagic whale fishery (mainly post-1851), and he had little coverage for years before 1830, when there may have been a greater emphasis on catching in the Atlantic.[3]

While studying the former distribution and abundance of North Atlantic right whales (*Eubalaena glacialis*), we found evidence of whaling activity on the northwest coast of Africa, an area we named the Cintra Bay Ground.[4] This ground was near shore and centered between about 22°30′N and 23°30′N, on the coast of Rio de Oro (formerly part of Spanish Sahara, more recently known as Western Sahara) (Figure 1). The vessels generally cruised in and between two bays, Cintra and Gorrei, and occasionally went as far south as Cape Barbas. Although some logbooks and journals fail to specify the species of whale hunted there, it is apparent from various published and unpublished sources that wintering right whales are what attracted the whalers to this area during the months of November through April.[5]

Because Townsend did not bother plotting any if his North Atlantic right whale kills, we did not, at first, look critically at the catch positions he plotted for other whales, such as humpbacks (*Megaptera novaeangliae*), in the North Atlantic. We did so recently, however, with an interesting result.

BACKGROUND

Humpback whales move from high-latitude summer feeding grounds to tropical or subtropical wintering areas where birth, nursing, and some mating take place.[6] There are two principal humpback wintering

1. C. H. Townsend, "The Distribution of Certain Whales as Shown by Logbook Records of American Whaleships," *Zoologica* XIX(1935), 1-50, 4 charts.

2. J. R. Bockstoce and D. B. Botkin, "The Historical Status and Reduction of the Western Arctic Bowhead Whale (*Balaena mysticetus*) Population by the Pelagic Whaling Industry, 1848-1914," *Report of the International Whaling Commission*, Special Issue V(1983), 107-141; W. E. Schevill and K. E. Moore, "Townsend's Unmapped North Atlantic Right Whales (*Eubalaena glacialis*)," *Breviora* CDLXXVI(1983), 1-8; R. R. Reeves and E. Mitchell, "American Pelagic Whaling for Right Whales in the North Atlantic," *Report of the International Whaling Commission*, Special Issue X(1986), 221-254.

3. P. B. Best, "Sperm Whale Stock Assessments and the Relevance of Historical Whaling Records," *Report of the International Whaling Commission*, Special Issue V(1983), 41-55; also see J. Bannister and E. Mitchell, "North Pacific Sperm Whale Stock Identity: Distributional Evidence from Maury and Townsend Charts," *Report of the International Whaling Commission*, Special Issue II(1980), 219-230.

4. Reeves and Mitchell, op. cit.

5. A. H. Clark, "History and Present Condition of the Fishery," 3-218 *of* Part XV, "The Whale Fishery," *in* G. B. Goode (editor), *The Fisheries and Fishery Industries of the United States. Section V. History and Methods of the Fisheries*, vol. II (Washington: Government Printing Office, 1887), 16; G. F. Tilton, *"Cap'n George Fred" Himself* (Garden City, N.Y.: Doubleday, Doran and Co., 1928), 26-27; E. Mitchell and R. R. Reeves, "Catch History, Abundance, and Present Status of Northwest Atlantic Humpback Whales," *Report of the International Whaling Commission*, Special Issue V(1983), 153-212; Schevill and Moore, op. cit.; Reeves and Mitchell, op. cit.

6. R. Kellogg, "What Is Known of the Migrations of Some of the Whalebone Whales," Smithsonian Institution, *Annual Report of the Board of Regents*, MMCMLXXXI(1929), 467-494 + 2 plates; A. G. Tomilin, *Mammals of the U.S.S.R. and Adjacent Countries, Volume IX, Cetacea* (Jerusalem: Israel Program for Scientific Translations, 1967), 267-275; S. K. Katona, P. M. Harcourt, J. S. Perkins, and S. D. Kraus (editors), *Humpback Whales: A Catalogue of Individuals Identified in the Western North Atlantic Ocean by Means of Fluke Photographs* (2nd ed., Bar Harbor, Maine: College of the Atlantic, 1980).

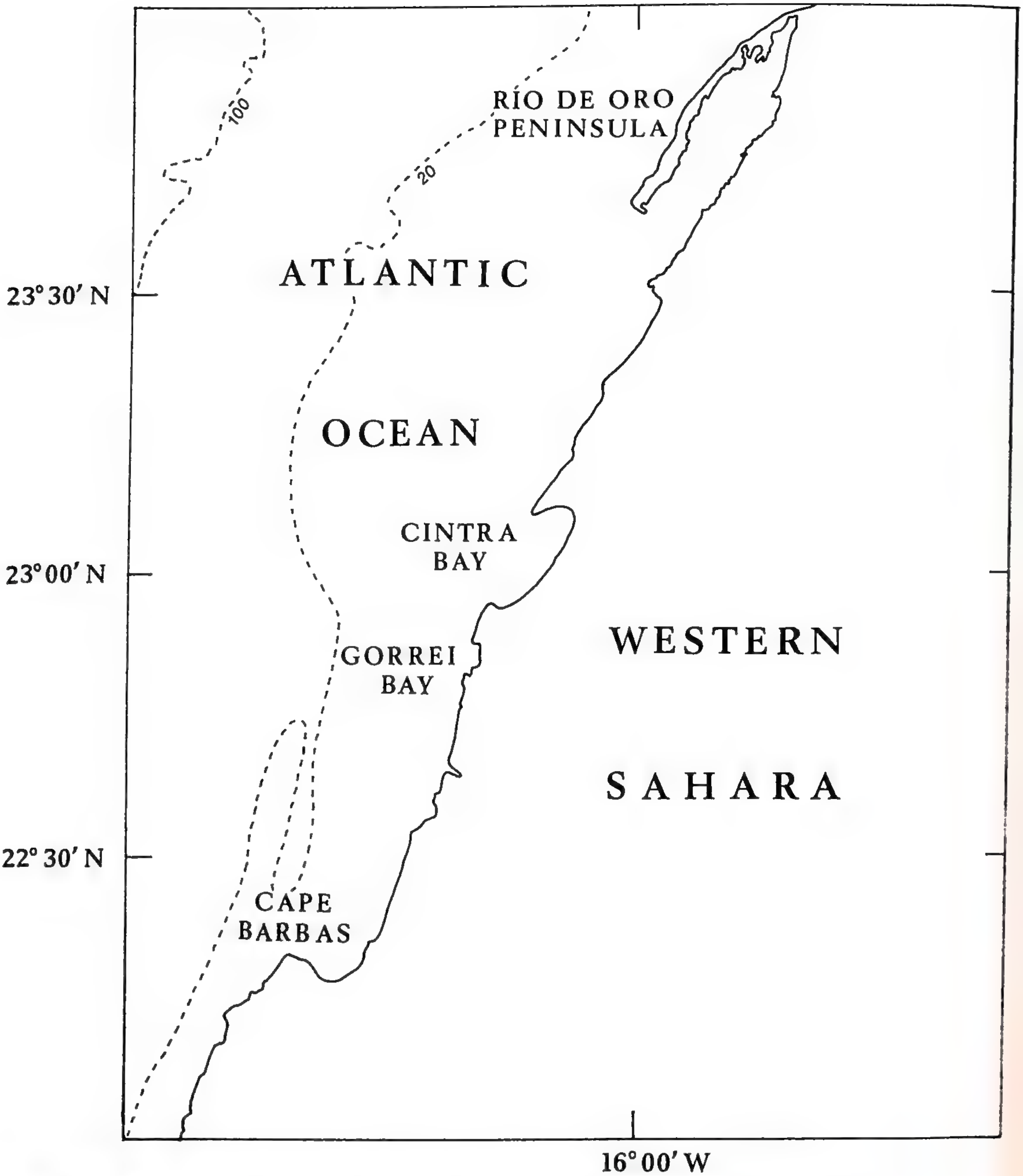

Figure 1. The Coast of Western Sahara, showing Cintra and Gorrei bays. Depth contours are in fathoms.

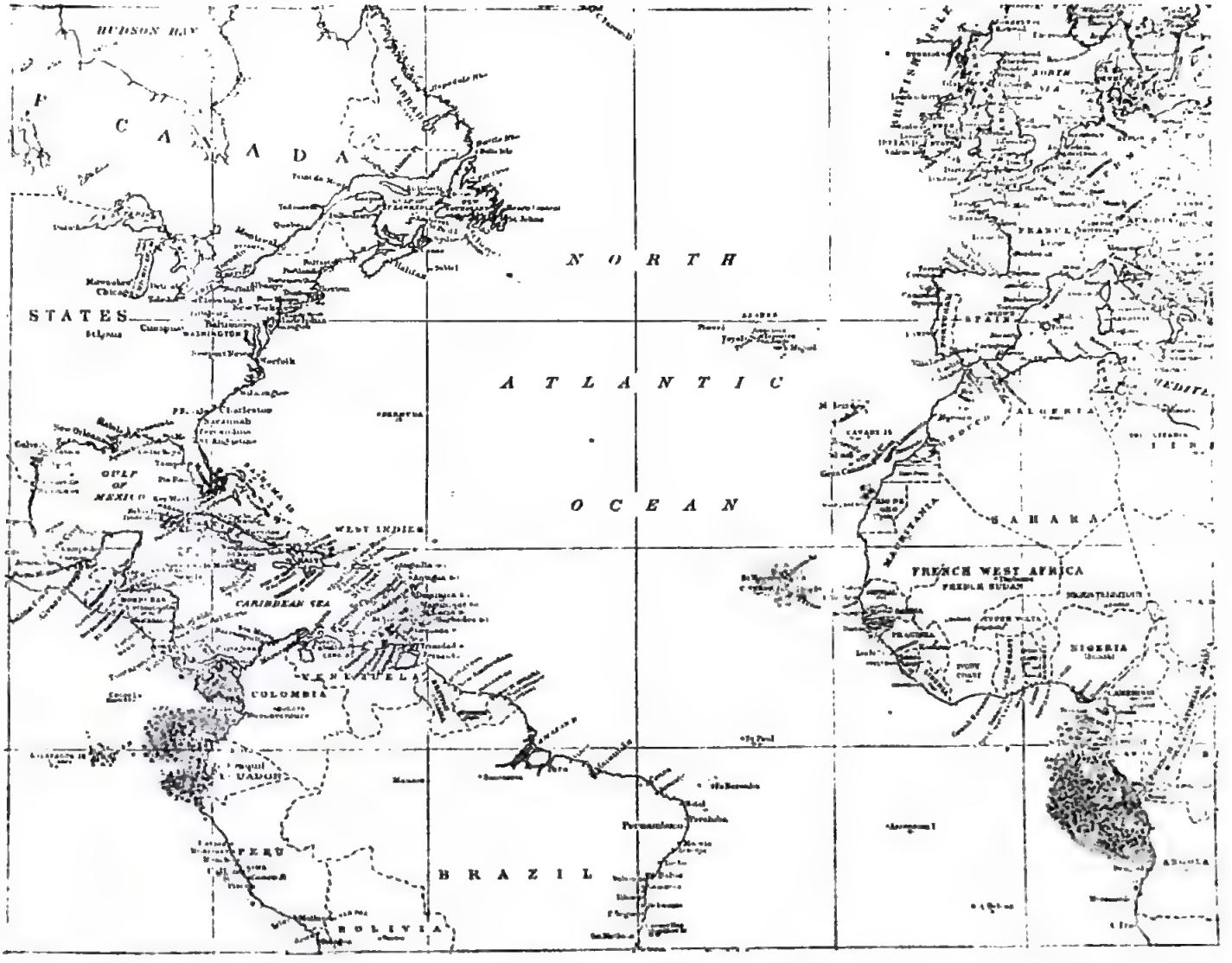

Figure 2. A portion of C. H. Townsend's chart showing the distribution of humpback whale catches in the Atlantic Ocean between 60°N and 20°S.

regions in the North Atlantic: the West Indies and the Cape Verde Islands. American whalers visited both areas to provision, trans-ship oil and baleen, rest, and catch humpbacks, sperm whales (*Physeter catodon*), and blackfish (*Globicephala macrorhynchus*).[7] While reviewing the catch history of humpbacks in the eastern North Atlantic, we examined carefully Townsend's Chart D, "Distribution of Bowhead and Humpback Whales . . ." (Figure 2).

The expected clusters of dots appear northeast of Hispaniola and around the Lesser Antilles and Cape Verdes. Less expected and readily explained is the small cluster of dots on the African coast off Rio de Oro at approximately 25°N. This cluster suggests a second winter concentration of humpbacks on the east side of the North Atlantic, in addition to the well-known concentration at the Cape Verdes.[8]

7. Mitchell and Reeves, op. cit.

8. The large concentration shown for June through September on the coast of Equatorial Africa is considered by us to represent the tropical end of the annual migration by a Southern-Hemisphere humpback stock, as the months indicated comprise the austral winter. See: Kellogg, op. cit.; N. A. Mackintosh, *The Stocks of Whales* (London: Fishing News, 1965), 85; N. A. Mackintosh and S. G. Brown, "Whales and Whaling," *in* S. G. Brown, R. L. Brownell, Jr., A. W. Erickson, R. J. Hofman, G. A. Llano, and N. A. Mackin-

Having found no other documented reference to humpbacks being taken during winter close along the northwest African coast, we wondered whether Townsend and his co-workers had erred in plotting the Rio de Oro whales as humpbacks. Townsend's table lists the vessels and dates of voyages that comprised his sample as well as the number of whales taken, by species, for each voyage. However, all 2,883 humpback kills are listed in a single column, and they are not broken down by region or ocean basin. Thus, it is impossible to identify, from Townsend's table, those voyages in which North Atlantic (as opposed to South Atlantic, Indian Ocean, South Pacific, or North Pacific) humpbacks were taken. We had to devise a different approach for discovering which voyages in the Townsend sample were responsible for the cluster of dots on the northwest coast of Africa.

Results

In our right whale study mentioned above, we examined manuscripts covering four Cintra Bay voyages in which right whales were taken (and three others in which no catch of right whales was made).[9] Townsend used three of the same four sources, covering voyages of *Walter Irving* (1855-1856 and 1856-1857) and *Richmond* (1857-1860).[10] Our tally of catches for these voyages was compared to Townsend's table of catches for the same voyages (Table 1).

A close examination of Townsend's Chart D reveals about 13 humpback catch positions plotted off Rio de Oro (Figure 2). Of these, two were in December (black, open dots), one in January (black, solid dot), six in February (orange, open dots), and four in March (orange, solid dots). Townsend's cartographer omitted some data 'rather than extend[ing] the ground[s] beyond actual whaling limits' in areas where plottings were very dense.[11] In fact, "from 10 to 20 per cent of the available records were omitted from each densely platted area of the charts."[12] It is possible, then, that the records shown for the Rio de Oro coast on Chart D are only a sample of the total 'humpback' catches compiled for this area.

The logbook of *Walter Irving* indicates that in 1856 "whales" were taken in January (2), February (6), March (4), and April (3), 15 whales in all on the Cintra Bay Ground.[13] During the following winter, *Irving* returned to Cintra Bay, her logbook reporting the capture there are two "whales" by other vessels in December (1856) and one by *Irving* in January (1857).[14] In 1857 *Irving* also visited the Cape Verdes and took two humpbacks there in February. Whales are explicitly identified as humpbacks in these two logbooks, but only at the Cape Verdes and West Indies (Samana Bay) and on the Western Ground near the Azores. The "whales" chased and captured on the Cintra Bay Ground are not identified to species in the *Irving* logbooks. However, the baleen was saved. For example, in March 1856 all hands were employed "cleaning bone" for several days. Since the baleen from humpbacks was too short to be of high commercial value, the nineteenth-century whalers rarely saved it. Baleen was, however, a major product obtained from right whales.[15]

In the *Richmond* logbook for 1857-1860, nine right whale captures on the Cintra Bay Ground are mentioned. In addition, three humpbacks and two southern right whales (*Eubalaena australis*) were taken on this voyage, all in the South Atlantic.[16]

Townsend listed no right whales but 15 humpbacks and a sperm whale in his table of catches for *Walter Irving* in 1856 (i.e., the 1855-1856 voyage) and seven sperm whales and three humpbacks in 1857 (i.e., the 1856-1857 voyage). He almost certainly considered as humpbacks the Cintra Bay "whales" mentioned in the two logbooks (Table 1). Our tallies of sperm whales exactly match his, and our tallies of humpbacks and

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tosh (editors), "Antarctic Mammals," American Geographical Society, *Antarctic Map Folio Series*, XVIII(1974), 2-4.

9. Reeves and Mitchell, op. cit.

10. According to A. Starbuck, "History of the American Whale Fishery from its Earliest Inception to the Year 1876," *Report of the U.S. Commissioner Fish and Fisheries*, IV(1878), 530-531 and 542-543, *Walter Irving* sailed from Provincetown 9 November 1855 and returned 16 September 1856, *Irving*'s next cruise, according to Starbuck, began 17 November 1856 and ended in January 1858.

11. C. H. Townsend, "Where the Nineteenth Century Whaler Made His Catch," *Bulletin of the New York Zoological Society*, XXXIV(1931), 173-179.

12. Townsend, 1935, op. cit., 15.

13. Providence, Rhode Island, Public Library, MS.

14. Providence, Rhode Island, Public Library, MS.

15. C. H. Stevenson, "Whalebone: Its Production and Utilization," Department of Commerce and Labor, Bureau of Fisheries (Washington: Government Printing Office), *Bureau of Fisheries Document* No. 626 (1907), 1-12 + 3 plates; P. B. Best, "Exploitation and Recovery of Right Whales *Eubalaena australis* off the Cape Province," Republic of South Africa, Department of Industries, *Division of Sea Fisheries Investigational Report*, LXXX(1970), 1-20.

16. New Bedford, Massachusetts, Old Dartmouth Historical Society, MS.

TABLE 1. CATCHES MADE BY *WALTER IRVING*, 1855-1856 AND 1856-1857, AND *RICHMOND*, 1857-1860

		Sperm	*Humpback*	*N. Atl. Right*	*S. Atl. Right*
Irving	Townsend	1	15	0	0
1855-56	Our study[1]	1[2]	0	15	0
Irving	Townsend	7	3	0	0
1856-57	Our study[1]	7	2	1	0
Richmond	Townsend	9	3	9	2
	Our study[1]	9	3	9[3]	2

[1] From examination of logbooks.
[2] Found dead.
[3] Several more than nine, taken or processed by mated vessels, are mentioned in the logbook.

right whales combined match his for humpbacks alone.

In spite of a generally good correspondence, there are some inconsistencies between the months of capture plotted on Townsend's chart and the months of Cintra Bay right whale captures indicated in the *Irving* logbooks (Table 2). The under-representation by two dots for January could be an artifact of the cartographer's stated procedure of leaving out some records to avoid extending the grounds too far beyond their actual limits. More significant is that there are no open green dots to represent *Irving*'s right whale kills in April 1856. Their absence is inexplicable. Either these three kills were plotted elsewhere by mistake, they were not plotted at all, or we are mistaken in our analysis. The two December dots also pose a problem. They clearly do not represent kills made on either of *Irving*'s voyages, although they could represent the two December kills by other vessels noted in *Irving*'s 1856-1857 logbook.

Townsend's record of *Richmond*'s 1857-1860 voyage indicates a total catch of nine sperm whales, nine North Atlantic and two South Atlantic right whales, and three humpbacks. We verified these figures by examining the logbook, and there is no reason to think the *Richmond* voyage is implicated in Townsend's plottings of humpbacks on the Cintra Bay Ground. *Richmond*'s three humpbacks were taken in the South Atlantic.

IMPLICATIONS FOR WHALE DISTRIBUTION

The possibility that humpbacks were taken occasionally along the Saharan coast of Africa cannot be ruled out. However, we believe that such captures would have been rare and that there is no reliable evidence for a regular winter concentration of humpbacks in this region.

None of the seven manuscripts we have examined covering voyages to Cintra Bay (including those by *N. D. Chase*, 1854-1856, *E. Nickerson*, 1856-1857, *Ohio*, 1875-1878, and *John A. Ross*, 1877-1878, in addition to the three discussed above) contains references to humpbacks being seen there.[17] "Finback" whales (*Balaenoptera* sp., probably either fin whales, *B. physalus*, or Bryde's whales, *B. edeni*, or both), killer whales (*Orcinus orca*), "grampuses," and blackfish, as well as right whales, were observed and mentioned by at least some of the whalers while on the Cintra Bay Ground. The keeper of *Richmond*'s logbook was exceptionally dutiful about specifying the types of cetaceans encountered. Although he sometimes called the large whales chased and taken in Cintra Bay just "whales," he also described them explicitly as right whales on a number of occasions. In addition, he referred to the killing of two "gramposses," many of which were seen in late January, at the height of the right whaling season, and to frequent sightings of killer whales in late January and throughout March.[18] In

17. These manuscripts are in the collections of the Old Dartmouth Historical Society, New Bedford (*Chase* and *Ross*); Kendall Whaling Museum, Sharon, Massachusetts (*Nickerson*); and Blunt White Library, Mystic Seaport Museum, Mystic, Connecticut (*Ohio*).

18. R. R. Reeves and E. Mitchell. "Killer Whale Sightings and Takes by American Pelagic Whalers in the North Atlantic," *Rit Fiskideildar*, XI(1988), 7-23.

TABLE 2. MONTHLY COMPARISON OF TOWNSEND'S PLOTTED "HUMPBACK" CATCHES AT RIO DE ORO VS. *WALTER IRVING*'S AND *RICHMOND*'S RIGHT WHALE CATCHES ON THE CINTRA BAY GROUND

	Nov.	*Dec.*	*Jan.*	*Feb.*	*Mar.*	*Apr.*
Townsend	0	2	1	6	4	0
Walter Irving	0	0	3	6	4	3
Richmond	1	0	2	3	3	0

several of the seven logbooks, including those of *Irving* and *Richmond* considered in this article, humpbacks (and other species such as sperm whales, "finbacks," blackfish, and "porpoises") are mentioned and explicitly identified during the voyages to and from Cintra Bay.

We take the absence of references to humpbacks on the Cintra Bay Ground, in the whaling manuscripts examined and in published works apart from Townsend's chart, as evidence that they were rare there, at best. Kirpichnikov noted the presence of other rorquals, but not humpbacks, in the eastern tropical Atlantic,[19] and Duguy listed three (or four) *Balaenoptera* species, but not humpbacks, for the coasts of Mauritania and Senegal, directly east of the Cape Verdes and south of Rio de Oro.[20] A humpback stranded at Port Etienne, about 160 kilometers south of the Cintra Bay Ground, in February 1954,[21] and several sightings have been plotted off the northwest African coast between 20°N and 30°N in January, March, May, and September.[22] The exact positions of these last sightings are not given.

We believe that the catches plotted on Townsend's Chart D off Rio de Oro were of right whales rather than humpbacks. The Cintra Bay Ground was the last profitable area in the eastern North Atlantic for catching right whales. The concentration of humpback catches around the Cape Verdes shown on Townsend's chart represents the only presently-known major wintering ground for humpbacks in the eastern North Atlantic. The concentration near the equator off Gabon during boreal summer is part of a wintering southern-hemisphere stock,[23] and the animals taken along the Finnmark (Norway) coast during winter are a perplexing anomaly that requires closer study.[24]

IDEAS FOR MORE INVESTIGATION

An interesting further inquiry might be directed at the sperm whale catches plotted close along the northwest African coast on Townsend's charts A and B.[25] Were these whales correctly identified by Townsend and his collaborators, or might they, too, have been right whales? There is no obvious approach to answering this question without investing many hours in reading logbooks. Now that the Cintra Bay Ground's significance as an important right whale assembly area has been recognized, scholars working

19. A. A. Kirpichnikov, "Nabliudeniia nad raspredeleniem krupnykh kitoobraznykh v Atlanticheskom okeane," *Priroda*, X(1950), 63-64. ["Observations on the Distribution of Large Cetaceans in the Atlantic Ocean," U.S. Navy Hydrographic Office, Washington, Translation X(1957)].

20. R. Duguy, "Contribution à l'étude des mammifères marins de la côte nord-ouest Afrique," Institut Scientifique et Technique des Pêches Maritimes, Paris, *Revue des travaux*, XXXIX(1975), 321-332.

21. J. Cadenat, "A propos d'un échouage de baleine à Dakar," I.F.A.N., Dakar, *Notes Africaines*, LXVII(1955), 91. [Not seen]

22. E. J. Slijper, W. L. Van Utrecht, and C. Naaktgeboren, "Remarks on the Distribution and Migration of Whales, Based on Observations from Netherlands Ships," *Bijdragen Tot de Dierkunde* (Amsterdam), XXXIV(1964), 1-93. The data on effort and sightings from Dutch merchant vessels are analyzed and plotted only by 10-degree squares. The squares in which the humpback sightings in question are plotted contain the Canary Islands and a large ocean area between northern Mauritania and southern Morocco, from the coast to several hundred or a thousand kilometers offshore. It is also necessary to point out that the species identifications for these records are unverified.

23. P. Budker, "Whaling in French Oversea Territories," *Norsk Hvalfangst-Tidende*, XLIII(1954), 204-210; P. Budker and C. Roux, "The 1959 Summer Whaling Season at Cape Lopez (Gabon)," *Norsk Hvalfangst-Tidende*, LVII(1968), 141-145; Townsend, 1935, op. cit.

24. A. Ingebrigtsen, "Whales Caught in the North Atlantic and other Seas," *In* "Whales and Plankton in the North Atlantic," (A contribution to the work of the Whaling Committee and of the North Eastern Area Committee, Conseil Permanent International pour l'Exploration de la Mer), *Rapports et Procès-Verbaux des Réunions*, LVI(1929), 1-26.

25. Townsend, 1935, op. cit.

with historical materials pertaining to this area for other purposes may uncover additional information.

Our findings in this instance lead us to make several specific recommendations for future research. Although it is probably safe to assume that major whaling grounds shown as dense plottings on Townsend's charts are reliably identified, any attempt to deduce distributions or migration routes from the smaller clusters of dots should be made with caution. Wherever possible, original materials should be checked to confirm that the species identifications are accurate.

Some of the worksheets used by Townsend in preparing his whale charts are available.[26] Unfortunately, neither *Walter Irving* nor *Richmond* appears on the available set. The importance of locating the remainder of the Townsend worksheets is clear. Although much of the Townsend logbook sample is available in museums and libraries, some of the documents are in private hands and thus out of reach for most scholars. The availability of a full set of worksheets would facilitate at least a preliminary check and permit correlation of dots or clusters of dots on the published charts with data from specific logbooks, thus making these important charts much more useful to scholars.

Other Aspects of the Cintra Bay Region

Judging by entries in American whaling logbooks, the desert coasts of Cintra and Gorrei bays were seldom visited by whalemen. Most vessels stood offshore and lay at anchor while their boats cruised for whales. Reefs, strong tides, and a lack of protection from the open sea made both bays dangerous. Anchors and cables were often damaged or lost, in some cases forcing the ships to go to the Canaries or Cape Verdes for replacements or repairs. For example, in December 1857 *Richmond*'s season at Cintra Bay was interrupted by a trip to the Canaries for a new anchor and cable. Her master, Edward B. Hussey, thought it "unsafe to lay in Cintra Bay with only one anchor." Perhaps such hazards, in combination with the sense of remoteness and desolation there, help explain the tendency of American vessels to "mate" routinely and share the responsibilities for finding, capturing, and processing right whales. Sallie G. Smith, whose husband Fred commanded the bark *Ohio* of New Bedford, kept a detailed diary during that vessel's 1875-1878 voyage. By the time of *Ohio*'s brief visit to Cintra Bay in late January and early February 1876, the heyday of American right whaling there was well past. The atmosphere conveyed by her diary is one of loneliness and foreboding. Within sight of what she called "the wildes of Africa," one of *Ohio*'s whaleboats and its crew vanished. After a brief and dispirited search for the bodies, Fred Smith ordered his ship to set sail for distant sperm whaling grounds.

One shipwreck is mentioned in the Cintra Bay logbooks. On 13 January 1856 *Irving*'s crew visited the wreck of *Mountain Spring* and attempted, unsuccessfully, to salvage her whaleboats. No further information is contained in the logbook, but Alexander Starbuck noted that the Provincetown schooner *M. Spring* capsized in Cintra Bay sometime in 1855, after leaving home port on the first of May.[27] Captain Young and two crew members survived, but 13 others were lost. *Irving*'s logbook mentions that the whale taken 3 January 1856 in Cintra Bay was killed "in Co with Capt Young," suggesting that by this time the master of *Mountain Spring* either had a new vessel or was on board *Irving*.

Spanish sloops and schooners occasionally were seen fishing in or near the bays, and the American whalers sometimes would take a break from whaling to fish themselves, apparently for mullet mainly. A boat from *Richmond* went ashore and secured several barrels of sand shortly before the bark departed Cintra Bay in April 1858, and *Irving*'s crew were "employed getting off wood" in Gorrei Bay in April 1857. Presumably mainly driftwood was available on this desert coast. One scholar recently described Western Sahara as a "terra nullius," a land not worth worrying about, with a mostly nomadic human population spread thinly over 110,000 square miles of "sand, brush and oases."[28] From a whaler's point of view, the resources there, apart from the whales, must have seemed sparse, particularly when compared to those of the Cape Verdes, Canaries, and other tropical stopover sites.

Offshore waters of Western Sahara are a part of the productive Canary Current System, and there are major upwelling zones to the north and south of Cintra Bay.[29] In fact, in view of these areas' productivity and

26. C. H. Townsend and A. C. Watson, no date. ["Records of Kills by Vessel, Date, Position, Species and Number from Logbooks of Whaleships"], incomplete typescript, vessels A-J, on deposit in New York Zoological Society files, MS.

27. Starbuck, 1878, op. cit., 530-531.

28. B. Weinstein, 'The Western Sahara,' *Current History* LXXVIII (1980), 110.

29. For example, see papers in the following: R. Letaconnoux

their traditional importance to fisheries, it would not be surprising to learn that right whales did (and may still do) some feeding on their ways to and from Cintra Bay. Certainly there is a diverse and abundant marine mammal fauna between Cape Blanc and Cape Vert, along the Mauritanian coast to the south of Western Sahara.[30]

The few remarks in the whaling logbooks concerning human inhabitants of the region are unrevealing. One of *Irving*'s boats found a dead body floating in Cintra Bay in January 1856, and it was taken ashore and buried. Whether it was that of an African or of an American, Spanish, or Portuguese sailor is unclear. The body might have been that of a *Mountain Spring* crew member, since its discovery was made only two days after *Irving*'s attempted salvage operation at the wreck site. Later the same season, *Irving*'s crew observed two Arabs and a camel on shore, but no interactions were reported.

Current Interest in the Cintra Bay Region

Because of the precarious status of right whales in the eastern North Atlantic today, whale scientists wish to obtain information about Cintra Bay. There is scarcely a handful of recent observations confirming the species' survival off western Europe.[31] Of all the places to look for a surviving remnant of the eastern North Atlantic population, Cintra Bay would appear to be the most promising. However, Western Sahara has been largely out of reach for political reasons for more than a decade,[32] and it is unclear whether an expedition to Cintra Bay can yet be conducted safely. Researchers investigating the status of endangered monk seals (*Monachus monachus*) have managed to make useful observations along portions of the Western Sahara coast in recent years, but the price has been high. In October 1988 three scientists and a Mauritanian guide died tragically when their vehicle struck a land mine left over from the desert war.[33]

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and A. E. J. Went, editors, "Symposium sur les Ressources Vivantes du Plateau Continental Atlantique Africain du Détroit de Gibraltar au Cap Vert," *Rapports et Procès-Verbaux des Réunions (Conseil International pour l'Exploration de la Mer)*, CLIX (1970); "JOINT-I Expedition of the Coastal Upwelling Ecosystems Analysis Program of the International Decade of Ocean Exploration," *Deep-Sea Research*, XXIV, 1 (1977); G. Hempel, editor, "The Canary Current: Studies of an Upwelling System. A Symposium held in Las Palmas, 11-14 April 1978," *Rapports et Procès-Verbaux des Réunions (Conseil International pour l'Exploration de la Mer)*, CLXXX (1982).

30. Duguy, 1975, op. cit.

31. A mother and calf were killed by whalers at Madeira in February 1967, and a breaching individual was seen off Ireland in June 1964 (G. E. Maul and D. E. Sergeant, "New Cetacean Records from Madeira," *Bocagiana, Museu Municipal do Funchal*, XLIII[1977], 6); Spanish whalers saw a right whale in the Bay of Biscay in September 1977 (A. Aguilar, "The Black Right Whale, *Eubalaena glacialis*, in the Cantabrian Sea," *Report of the International Whaling Commission* XXXI[1981], 459); and another was seen west of La Coruna, northern Spain, in July 1987 (P. Evans, "UK & Irish News," *European Cetacean Society Newsletter* II[1987], 7).

32. For example, see J. Mercer, *Spanish Sahara* (London: George Allen and Unwin Ltd, 1976); V. Thompson and R. Adloff, *The Western Saharans: Background to Conflict* (London: Croom Helm, 1980); J. Damis, *Conflict in Northwest Africa: The Western Sahara Dispute* (Stanford, California: Hoover Institution Press, 1983); T. Hodges, *Western Sahara: The Roots of a Desert War* (Westport, Connecticut: Lawrence Hill and Co., 1983).

33. IUCN/UNEP, *The Mediterranean Monk Seal*, edited by P. J. H. Reijnders, M. N. de Visscher, and E. Ries (Gland, Switzerland: International Union for Conservation of Nature and Natural Resources, 1988), [v], 45.

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Orkney Marine Disasters Changed the Course of History

TOM H. INKSTER

THE Orkney Islands, a fascinating small green world off the north coast of Scotland, were of vital naval importance in both world wars. In their waters many noted shipwrecks have occurred in ancient and modern times, some of world importance.

Abounding in contrasts, the Orkneys were once settled by the Norse and vestiges of Norse ancestry survives in the lilting intonation of Orcadian speech. Numerous burial vaults and mounds, and stone homes with stone furniture, are evidence of man's early pres-

Skara Brae, in the Bay of Skaill and a few miles north of Stromness, is a jewel in the many archaeological treasures of Orkney. The stone houses, containing stone furniture were built thousands of years ago. Photo credit: Tom H. Inkster.

ence (about 2000 B.C.) and create a veritable museum of antiquity. Farmers work in the fields with the very latest machinery among tall stones erected thousands of years ago.

When the first Norsemen came to Orkney, between the fifth and sixth centuries, they found the Islands inhabited by converted Picts and Celtic missionaries. Norse earls, who fought almost continuously to maintain and expand their authority, ruled until 1468.

On September 8th of that year a marriage contract was signed by King Christian I of Denmark, who also ruled Norway and Sweden, for the marriage of his daughter, Princess Margaret, to King James III of Scotland. She brought—as guarantees of her dowry—the Orkneys and Shetlands, which would become part of Scotland in event of default.

The marriage contract included a dowry of 60,000 florins, and of this sum 10,000 florins were to be paid before Princess Margaret's departure. However, King Christian could pay only 2000 florins and the Shetlands were pledged for the unpaid 8000. The Orkneys were then pledged for the balance of 60,000 florins, the Islands to be redeemed at the earliest opportunity. Though repeated attempts were afterwards made to release the two pledges, Scotland found the Islands too important to be allowed to pass back into Danish hands. Strictly speaking, the Islands are still "in Pawn" and Scottish folk intend they should remain that way.

Robert Stewart, illegitimate son of King James V and half-brother of Mary Queen of Scots, was granted the earldom of the Islands in 1565. A ruthless cruel despot, Stewart ruled until his death in 1592. His son Patrick succeeded him and practiced the same brutal oppression, increasing the abuse and torture of the unfortunate people until he was summoned to Edinburgh and beheaded in 1615.

Redress came with the passing of the Stewarts. Their two ruined castles which still survive attest to the magnitude of their vile ambitions and the luxurious way they lived. After the Stewart period, the dominant aspect of Orkney's history becomes its economy, which greatly improved with the Union of Scotland and England in 1707. Farming, cattle-raising for export, and fishing is now the life-blood of the Islands.

Crossing the Pentland Firth from Scrabster to Stromness the *St. Ola* passes under the massive hills of Hoy, highest island in Orkney. In wonder and fascination, visitors look up at the Old Man of Hoy, a 450-foot rock pillar standing in the sea, that has long

Ruined princely castle of Patrick Stewart, which attests to the vile ambitions of him and his father Robert, Orkney earls who oppressed and tortured an unfortunate people. Photo credit: Tom H. Inkster.

been a beacon for mariners and very likely the best-known feature of the Islands.

At the edge of Stromness an inscription over an old well reads: Site of Login's Well. There wintered here the Hudson's Bay Company's ships 1670-1891; Captian Cook's vessels *Resolution* and *Discovery*, 1780; Sir John Franklin's ships *Erebus* and *Terror* in Arctic exploration, 1845; also Merchant Vessels of Former Days.

In Stromness Orkneymen were recruited for service on Hudson's Bay Company ships operating to "ye bottom of ye bay" and at trading posts in the Canadian Northwest. Of 530 Bay employees, in 1799, 416 were from Orkney.

Stromness had an important shipping connection with the American colonies before they became the United States, and was one of the most important fish-

Stromness, with narrow streets and gray stone buildings, has changed little since sailing ships departed for Hudson Bay and whalers set out for Davis Strait. Photo credit: Tom H. Inkster.

ing centers in Europe. John Gow sailed from here in his father's trading ship before he turned pirate, to end his infamous career on the gallows in London in 1785.

Whalers called at Stromness to make up their crews before setting out for Davis Strait during the great whaling bonanza between 1790 and 1840. Many ships were lost in the ice and scores of seamen died from scurvy. After thirty-seven men, including the captain, died of scurvy when their whaler was fast in the ice for six months, four seamen brought the ship back to Orkney. We read about that harrowing ordeal in Adam Flett's log book.

Sea and ships have always formed a dominant role in Orkney, with records back to 1263 when King Haakon IV assembled his fleet of 150 galleons in Orkney to show the flag and suzerainty over the Western Isles. The Scots, under King Alexander, played a cat-and-mouse game with Haakon through delaying tactics with one parley after another until the autumn storms. When Haakon realized what the canny Scots had been up to, his fleet was beset by gales of fury and shortage of food. Landing on the beach at the fishing village of Largs, the Norwegians were met by an inferior force that came down out of the hills and overwhelmed them.

Sailing back to Kirkwall with what remained of his fleet, Haakon beached his ships and became a guest of the Bishop. The sick king died soon after, at the age of 63, his coffin resting in the cathedral until spring when his galley carried it back to Norway. With the passing of Haakon Haakonsson, the greatest king Norway

ever had, the Western Isles from the Hebrides to the Isle of Man were freed for ever from any Norwegian menace.

One of the earliest sea disasters changed the course of England's history when the ship taking Margaret, the Little Maid of Norway, to Scotland in 1290 was wrecked. Daughter of Eric II of Norway, granddaughter of King Alexander III of Scotland and grand-niece of King Edward I of England, Margaret was the rightful queen of Scotland from 1286 until her death. Betrothed bride of England's King Edward II, a marriage that would unite the two kingdoms, she was to have been brought up at the court of England. Her ship, buffeted by storms, was driven onto the rocks and the seven-year-old child died on a lonely Orkney coast.

Margaret's death caused continuous fighting between England and Scotland. Edward II claimed the throne of Scotland through her betrothal, but Bruce claimed it also. Too fond of court life and disorderly living, weak King Edward II was finally aroused by his irate barons to lead an army into Scotland. At Bannockburn he was roundly defeated by Bruce.

A most memorable shipwreck in Orkney was not caused by accident or a cruel sea, but manmade. It began with the rising at Bothwell Brig that ended tragically in 1679 for the Covenanters, a group of people opposed to Catholicism and the Church of England, and bound by oath to Presbyterianism. About 1200 prisoners had been herded for months in the open space of Edinburgh's Grayfriar churchyard. Some had been executed, many died, and a large number made submission and were set free. The remaining 250 were crowded on board the *Crown* at Leith for transportation as slaves to the colonies in America.

Early in December of 1679 Captain Patterson was on a northern course with his human cargo. Off the east coast of Orkney's largest island, near Mull Head, the ship anchored two miles outside of completely sheltered Deer Sound and waited for foul weather. A gale followed, driving the *Crown* ashore, so near the rocks that a fallen mast and wreckage made a bridge by which the captain and crew escaped to dry land. Not the wretched Covenanters, however. They were confined to the hold, with the hatches battened down on the captain's orders. On such a charter he would be paid for the slaves he landed and for those who died on the voyage. A tall pillar, with its top like a crown, that tells about the unfortunate Covenanters, stands where the tragic event took place.

Orkney's Scapa Flow is tied to the plot in the Balkans that changed conditions throughout the world. Bosnia, once a proud independent Slavic kingdom, had been dominated by Turkey for over 400 years and, in 1908, became a captive province of Austria-Hungary. Young Bosnians, hating their new rulers even more than the Turks, assassinated Archduke Franz Ferdinand and ignited the European powder keg. Germany invaded Belgium and France, and on August 4, 1914 Britain declared war on Germany. To have her warships as close as possible to Germany, Scapa Flow, a large body of water surrounded by Orkney islands, was chosen as a naval base and the fleet rushed there.

Three entrances to Scapa Flow were still unprotected. Before they were securely closed an intelligence agent of the enemy hurried home and reported to his naval officials that the British fleet lay at their mercy in a perfect trap. His story was not believed in Germany. It was impossible, they reasoned, that the British high command could be so careless! The despicable man must be a double agent, intent on leading the German fleet to complete destruction! So the wretched fellow met his sudded end before a firing squad! There are hundreds of spy stories, but this is a true one, vouched for by a responsible British naval officer in his book "Scapa Flow."

The British fleet left Scapa and on May 31, 1916, fought the chief naval engagement of World War I, known as the "Battle of Jutland." Although the German fleet, brilliantly commanded by admirals Hipper and Sheer, suffered lighter losses than the British under Beatty and Jellicoe, it was forced to return to Germany and remain bottled up for the remainder of the war.

On June 5, 1916, the *Hampshire* left Scapa Flow, conveying General Lord Kitchener on a special mission to consult with the Czar and other Russian leaders. When opposite Marwick Head and but a short distance from shore the *Hampshire* exploded and sank in a few minutes. With it went Kitchener and millions of pounds sterling in gold, intended to bolster faltering Russia.

There was consternation, followed by mystery and confusion, with whispers of spies and sabotage, as it was not determined until later that the *Hampshire* had struck a mine set by the German submarine U75 just one week previously. People of the neighborhood, who knew the rugged cliffs and means of safety from the shore, hurried to give assistance. For some inexplicable reason, they were refused access to the

Kitchener Memorial atop Marwick Head. Directly off this point the cruiser *Hampshire* went down, with General Lord Kitchener on board, after striking a mine on June 7, 1916. Millions of Pounds sterling in gold, intended to bolster faultering Russia, sank with the ship. Photo credit: Tom H. Inkster.

beach by misguided naval security and, as a result, several seamen who had struggled from the ship were lost. Atop Marwick Head a memorial tower, in its stern simplicity and lonliness, commemorates a fine ship and a remarkable man.

World War I over and peace again, the entire German navy moved to their last anchorage in Scapa Flow. Under the escort of British naval ships, the melancholy procession of the second largest navy in the world continued from the 23rd to the 27th of November, 1918. For seven months the ships lay there in charge of ratings. It was bad enough for the German sailors to suffer defeat; they must have felt humiliated and angered by sight-seeing crowds constantly staring at them.

The chapter of the German fleet in Scapa Flow had a dramatic and exciting ending. On June 21, 1919 a party of school children were enjoying an outing on a small steamer when, to their surprise, a German warship began to settle down in the sea and quickly vanished. It was immediately followed by other sinkings. In a very short time the German sailors had scuttled all their ships, sending 13 battleships, 5 battle cruisers, 8 light cruisers, and over 50 destroyers and lesser ships to the bottom. The British fleet was on maneuvers at the time, so the men on the few British ships on guard in Scapa Flow could only watch the disappearance of the German fleet in fascinating amazement.

Beautiful chapel built by Italian prisoners of war, from scrap material, while constructing the Churchill Barriers to link the south-east islands after a German submarine entered Scapa Flow and sank the *Royal Oak*. Photo credit: Tom H. Inkster.

World War II had barely started when, on October 14, 1939, German Commander Prien, through a masterful piece of navigation, glided his submarine into Scapa Flow and sank the *Royal Oak*. How could such a thing happen? Then a few islanders recalled seeing a foreign visitor making sketches and fishing in the channel the previous summer, which explained how the submarine had been guided in the dark of night during extreme high tide with a very few inches to spare when entering Scapa Flow to create havoc.

One of the Churchill Barriers between the south-east islands, built by Italian prisoners of war during World War II, sealing the entrance to Scapa Flow. This was done after a German submarine, navigated most skilfully, entered Scapa Flow and sank the *Royal Oak*. Residents of the islands now travel by car instead of by boat. Photo credit: Tom H. Inkster.

Loss of the *Royal Oak* brought into being the great rugged Churchill Barriers, formed by huge concrete blocks between the islands. A fine highway atop the Barriers has altered the geography of Burray and South Ronaldsay as well as the lives of the people who now travel between their islands by car instead of by boat. Italian prisoners of war were employed on construction of the Barriers. On the small uninhabited island of Lamb Holm, using waste material, they built a beautiful chapel and two religious statues.

On May 21, 1941 the British Admiralty was advised by their agent at Malmo, Sweden, that Germany's battleship *Bismark,* pride of their navy and terror of the seas, had left the Baltic and was heading at great speed through the Kattegat and Skagerrak for the North Sea. Every available ship in Scapa Flow was sent out to stop the *Bismark* before it could cause devastating destruction. Hitler's submarines could not reach the *Bismark* in time to give assistance as she received constant shelling before sinking to the bottom of the sea.

The German naval fleet, including the large battleships, had been ingeniously raised and sold at a good profit before July 1939. But Orcadian sentiment was aroused when there was a proposal to raise the *Royal Oak*. So loud were the indignant protests against the impiety of disturbing the graveyard of the 800 sailors that the *Royal Oak* and those who went down with her remain bedded in the sea. Floating above the ill-fated ship is a memorial, most times covered with wreaths and flowers to retain the memory of all the *Royal Oak*'s brave men now at rest in Scapa Flow.

Tom Inkster was a purser of a MacKenzue River steamboat operating to the Atlantic Coast. On the President Grant *he was in the Orient and South Pacific, and went to the Bering Sea fishing grounds on the* Glacier. *During the Great Depressions he went to Canada's Arctic Islands on the* Nascopie, *and with start of World War II went overseas on the* Empress of Canada, *later sunk by a German submarine. Retiring in Seattle he and his wife made many voyages around the world on ships of various nationalities. He now lives in Victoria, British Columbia. He is a contributor of articles to* The American Neptune.

Duhamel du Monceau: *Savant* and Naval Architect

VICTOR A. LEWINSON

HENRI-LOUIS Duhamel du Monceau (1700-1782) was a real *savant* of the French 18th Century. His abilities, combined with the state of knowledge and the interests and curiosities of the time, produced very broadly varied contributions to science and the useful arts as well as to the French Navy. Duhamel wrote important treatises on naval architecture, fishing and rope and rigging, and helped to found the French *Académie de Marine* and schools of naval architecture and of marine medicine.

In 1959, the Peabody Museum of Salem bought a collection of materials associated with Duhamel. They include manuscripts, letters, memoranda, pamphlets, and some 42 drawings. Later, a copy of an engraved portrait (Fig. 1) was acquired. The documents are stored in the Museum's Phillips Library and the drawings are in the custody of the Maritime History Department. Some of the drawings were cleaned and mounted in 1961, perhaps for exhibition at the Museum; otherwise, the materials have not needed or received conservation. The collection has recently been rearranged and recatalogued, and a Register of the materials has been prepared for the Library's files. The purpose of this NOTE is briefly to describe the materials for researchers. Time and resources have not permitted consulting the collections in Europe, nor the Maurepas Papers at Cornell's Olin Library.

BIOGRAPHY

Duhamel, a son of Alexandre Duhamel de Denainvilliers and Anne Trottier, never had to earn a living, partly because the family was prosperous (even though he was not the eldest son) and partly because his elder brother, who had the family name Duhamel de Denainvilliers, managed their estates for both of them. Duhamel was educated in and around Paris, having contact with distinguished scientists of the day, and took a law degree at Orléans. He never married and had no children; his heirs were four nephews and a niece, his sister's children. He was very close to his elder brother, who carried out many of Duhamel's experiments, especially in agriculture and botany. Duhamel never recovered from his brother's death. One of the nephews, Auguste-Denis Fougeroux de Bondaroy (1732-89), also worked closely with Duhamel and was his colleague in the *Académie des Sciences*.

The most important of Duhamel's contributions were in botany and agriculture (as well as chemistry and physics) and in naval ship building and operation. His career as an academician may be considered even more outstanding.

In 1728, Duhamel was elected to the French *Académie des Sciences,* his first and perhaps most prestigious academy. He served three one-year terms as director and two as vice-director. During his career, he became a member of at least a dozen other academies. Most important for our present purposes, Duhamel participated in the Commission that organized the *Académie de Marine* in 1752 and was a founding member. Located in Brest, this academy grew out of an informal discussion group maintained by Sébastien-François Bigot, vicomte de Morogues (1705-81). Antoine-Louis de Rouillé (comte de Jouy, 1689-1761; Secretary of the Navy, 1749-54) visited it in 1750 and then formalized it. He intended it to bring together the emerging sciences (especially mathematics and physics) and practical ship design, operation and navigation; Bigot de Morogues was the first director. It dwindled out of existence in 1765 as a result of the Seven Years War, was restarted under Praslin (Gabriel de Choiseul-Chevigny, duc de Praslin, 1712-85, Secretary of the Navy, 1766-70) in 1769 as the *Académie Royale de Marine* and survived until the Revolution (1793). To the end of his life, Duhamel was a very active member of the French academies, attending meetings and contributing discussions and results of studies. Also, he was a major supporter of the "Description des Arts et Métiers" of the *Académie des Sciences,* writing or editing 18 substantial articles between 1761, when the

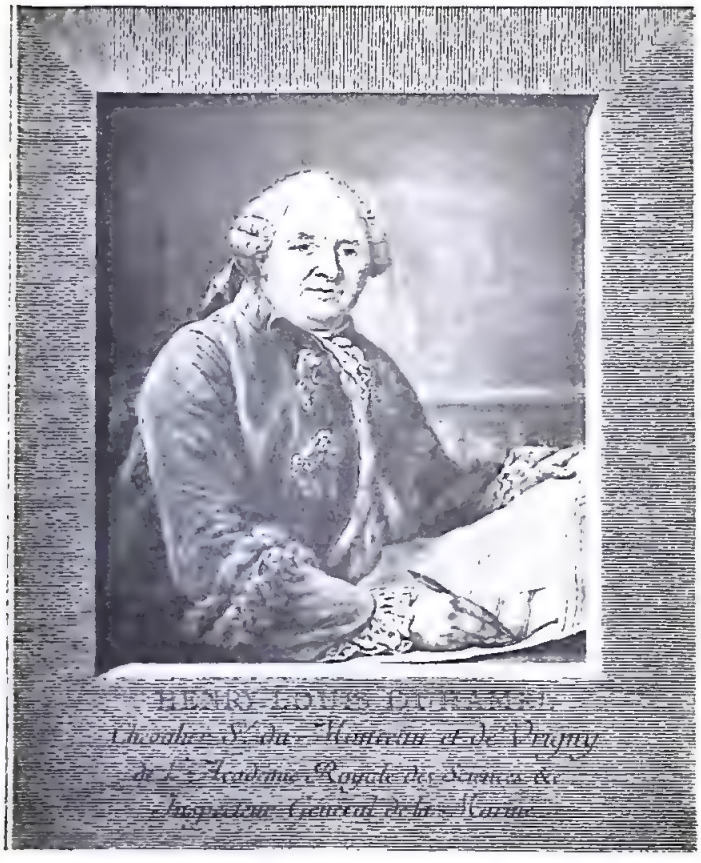

Fig. 1. Drouais portrait of Duhamel, engraved by Moitte. Courtesy of Peabody Museum of Salem (Cat. #M-11845).

publication started, and 1774; Fougeroux de Bondaroy, his nephew, was also a contributor. This encyclopedia was roughly contemporary with that of Diderot and d'Alembert.

The first recognition of Duhamel's scientific abilities came in 1727-8, when Antoine de Jussieu (1686-1758, one of a family of famous French botanists) was assigned a study of a disease affecting saffron plants. He entrusted the work to Duhamel, who identified the tuberous parasite and its mode of spreading and produced a fine illustrated memorandum published in the "Mémoires de l'Académie des Sciences" in 1728. Thereafter, by a study of grafting, Duhamel contributed greatly to identifying the source of new wood in trees (whether from the outer layer of old wood or the inner layer of the bark). At about the same time, he made similar observations on the growth of bones in animals. In chemistry, he was one of the first to distinguish soda from potash clearly, and in physics he was involved in understanding the connection between lightning and electricity. An example of Duhamel's careful and patient data-taking: each year from 1740 to 1780, he published, doubtless with his brother's help, detailed daily meteorological and botanical observations from their property in Denainvilliers.

Duhamel's marine career started in 1739, as a result of his standing as a scientist and academician and his interest in silviculture and the properties of wood, the principal material of ship construction. Maurepas (Jean-Frédéric Phélypeaux, comte de Maurepas, 1701-81; Secretary of the Navy, 1723-49), created for him a position with the resounding title *Inspecteur Général de la Marine pour le Ponant et le Levant* (Inspector General of the Navy for the Atlantic and the Mediterranean). He was ordered to visit ports and shipyards and identify and disseminate the best methods he found among them all. He continued in this post through 1773 at least. Apparently this position had no administrative responsibilities, but it enabled Duhamel to contribute to many of the Navy's major activities—an ideal assignment for his broad interests and practical but dilettante nature. In ship design and construction, he took part in review of plans and personnel decisions and in the founding (1741) of a school of naval architecture, for which he wrote a widely used treatise.[1] He was concerned with hemp and rope-making and with the use of tar to preserve rope and wood. Duhamel was ahead of his time in consideration for sanitary conditions and decent food for ship crews, and he wrote the charter (1740)[2] for Brest, one of the three schools founded by Maurepas to train ship surgeons.[3]

Contents of the Collection

The Museum's Duhamel du Monceau Papers are described in an Inventory prepared by the dealer from

1. Duhamel du Monceau, Henri-Louis, "Elémens de l'architecture navale, ou Traité pratique de la construction des vaisseaux," Paris, Jombert, 1752. Second edition, 1758.

2. Lacour-Gayet, G., "La Marine Militaire de la France sous le Règne de Louis XV," Paris, Champion, 1910, Ch. VI.

3. The other two schools were at Rochefort and Toulon. Jouan, René, "Histoire de la Marine Française," Paris, Payot, 1950, p. 113, gives the date for all three as 1768. Coury, Charles, "L'enseignement de la Médecine en France," Paris, Expansion Scientifique Française, 1968, pp. 76-77, says the school at Brest was opened in 1722 and reorganized in 1783. It mentions the other two without giving dates, and emphasizes a school of clinical instruction in "colonial pathology" at Nantes, started in the 17th Century, which trained marine as well as colonial physicians. Probably none of them survived the Revolution. This whole subject seems unduly confused.

whom the collection was bought in 1959. This Inventory corresponds almost exactly to the existing documents, and its items and sub-items are differentiated largely by content. The cataloguing process therefore sorted the items and sub-items into a dozen major categories of content, rather than by their type: manuscripts, letters, pamphlets, memos. . . . All of those types are represented; many of the letters and memos are neither to nor from Duhamel, but were referred or copied to him because of his position of interests. Some bear marginal notes.

The subject categories represented in the collection are listed in Table 1. They belong to Duhamel's naval work and cover many of the topics to which he contributed. Unfortunately, the documents often lack a desirable identifier or two, such as date or names of addressee or writer. Many signatures are undecipherable. Nevertheless, a large number of the expected names appear: Louis XV's Ministers or Secretaries, port *intendants* and commanders, ship designers and officers, administrators. The following paragraphs mention some of the documents that are of striking interest.

Manuscripts are of course among the most interesting documents. The Inventory describes one as "probably the MS. of the first chapter" of Duhamel's text.[4] There are, however, considerable differences between the two. Sections 1 and 2 of the printed text, for example, are respectively three paragraphs and two pages longer than the MS at their ends. The MS ends with a section comparing the proportions of ships, including eight foldout tables, material which is absent from both printed editions, and about which Duhamel perhaps changed his views. This section is based on traditional practice; its disappearance may be an example of Duhamel's devotion to the middle ground between the theoretical and the empirical. The first printed edition ends the chapter with two plates (sections of a ship) and explanation of them; this is not in the MS. Finally, the Table of Contents of the MS mentions five sections at its end that do not appear in the text, although two seem to refer to later chapters of the printed book. Perhaps this MS is some sort of a rough draft.

Another is what the dealer calls "older material . . . incorporated into *Architecture Navale,* 1752." It is bound in leather, and on the spine is "Idée de la Construc . . ." Neither this text nor similar material can be found in the printed text of either edition.

TABLE 1
LIST OF SUBJECT CATEGORIES

Inventory, etc (Not XVIII Century)
Ship design & shipbuilding
Ship personnel & operations; training & health
Rope making & strength
Ports & port installations
Cartridge paper
Pumps
Ships' equipment
Nagivation (instruments & charts)
Tar (preservation of rope & wood)
Miscellaneous
Drawings, etc. in Marine Storage

A third MS has no title page or date. It deals with the pieces of wood needed to construct *a galère* (galley). Written on the first page is a sentence attributing it to J. B. Chabert in 1692, collected by Sr. de Cipières. This remains a mystery.

Three folders contain documents involved in a personnel review process for ship designers and builders, in which Duhamel's advice was solicited. They cast light on some of the ship plans in the collection. The drawings (Peabody Museum cat. nos. M-10454, 10458, 10459) are part of three contests for promotion of naval architects in 1765-7.

There is considerable material that concerns the making and strength of rope. The first of two documents called "Treatise on rope" in the Inventory bears some resemblance to Duhamel's treatise.[5] Scope and some bits of content are similar, but the printed text is much larger. Again, perhaps this is a draft.

Two of the oldest documents in the collection are memos from Sauvage de Champlain to Louis Phélypeaux, comte de Pontchartrain (1643-1727, grandfather of Maurepas; Navy Secretary for Louis XIV, 1690-99).

There are some items of economic interest. For example, there are prices of pieces of timber of various dimensions at Rochefort in 1738 and 1739. Some of the discussions of port construction also contain cost estimates. All in all, however, the collection does not

4. Duhamel du Monceau, Henri-Louis, "Elémens de l'architecture navale, ou Traíe pratique de la construction des vaisseaux," Paris, Jombert, 1752. Second Edition, 1758.

5. Duhamel du Monceau, Henri-Louis, "Traité de la fabrique des manoeuvres pour les vaisseaux, ou L'art de la corderie perfectionné" Paris, Imprimerie royale, 1747.

show Duhamel as heavily involved in the finances of the French navy, although Pritchard[6] identifies this as one of its primary problems. His lack of interest in financial questions is confirmed by the fact that at his death no personal accounts were found in his papers.

On a family note: Segondat's letter in 1782 mentions help from Duhamel and from Fougeroux de Bondaroy in obtaining the approval of the *Académie* for publication of a book on wood. One drawing was sent to M. de Denainvilliers, perhaps to be forwarded to Duhamel. A letter on Bermuda cedar went to Fougeroux, since the date (1783) follows Duhamel's death.

François-Hubert Drouais (1727-75),[7] a distinguished court painter, did Duhamel's portrait in oil on canvas about 1766. There is a photograph of the painting in an exhibition catalog,[8] and the PMS collection contains an engraving of it by P.-E. Moitte (1722-80),[9] catalog #M-11845. The Library of Congress[10] has a lithograph by Henri Grévedon (1776-1860).[11] There is or was[12] a marble bust in Versailles by Paul Dubois (1829-1905).[13] It is in Vestibule 3, ground floor, central part,

6. Pritchard, James, "Louis XV's Navy, 1748-1762," Kingston & Montreal, McGill-Queen's University Press, 1987.

7. Bénézit, E., "Dictionnaire critique et documentaire des Peintres, Sculpteurs, Dessinateurs et Graveurs," new edition, Paris, 1976, v. 3, p. 677.

8. Musée de la Marine, "Exposition du Bi-centenaire du Génie Maritime," Paris, 1966.

9. Bénézit, op. cit., v. 7, p. 457.

10. Faber, Eduard (ed.), "Great Chemists," Interscience, 1961, pp. 179-183; drawn from Vicq-d'Azyr, Félix, "Eloge de M. Duhamel," in "Histoire de la Société Royale de Médecine, Années 1780 et 1781," Paris, Barrois, 1785, pp. 101-135.

11. Bénézit, op. cit., v. 2, p. 202.

12. ??, "Le Musée Impérial de Versailles. Catalogue," Versailles, BRUNOX, pre-1869, p. 41.

13. Bénézit, op. cit., v. 3, p. 689.

Fig. 2. Map, Port of Mahon. Courtesy of Peabody Museum of Salem (Cat. #M-10463).

in the company of Fourcroy, Antoine and Bernard de Jussieu, Lavoisier and Linnaeus.

The 42 visual items acquired in the Museum's original Duhamel purchase include 24 ship plans—sections, profiles, frames, rigging, and even details like carving and a cabin plan. Eleven show equipment such as pumps; ports or port installations (Fig. 2) appear in seven. There is one engraving, in addition to the portrait separately bought (Fig. 1), and about a dozen items are in color. The 18 dated items cover most of the XVIII Century; in fact, the latest shows plans for Brest in 1788, six years after Duhamel's death. Over a dozen are signed, and two vessel names appear: le FIER of about 1720 and le TONNANT of 1746. In addition, the Phillips Library has copies of Duhamel's treatises on naval architecture (both editions, as well as a partial translation into English by Mungo Murray in 1754 and 1765), fishing (two editions) and rigging.

Speculations on Duhamel's Career

In conclusion, a few speculations on Duhamel's character and career follow. These should be taken with a grain of salt, in view of the secondary nature of the sources, especially the *éloges,* in which *nil nisi bonum* is to be expected.

Duhamel had great confidence and reliance in the process of rational discussion among rational people as the way toward progress in science and daily affairs. This is illustrated in his lifelong active participation in academies and commissions, even in his eighties. Several sources say that his death was caused by an attack of apoplexy suffered at or directly after attending a sitting of the *Académie des Sciences,* Condorcet[14] gives an even more pointed anecdote. During Duhamel's last years, he was invited to join a committee on improving the practice of milling and baking. The committee expressed the fear that they would not see him often at their sessions, and he answered bluntly: "Je m'y ferai plutôt porter" (I shall sooner have myself carried there).

His modesty and generosity were legendary. This is shown in his lifelong efforts to stimulate the intellectual contributions of others. Almost every biographical source also reports how he rebuked a conceited young officer ("The academician does not talk about what he does not understand") and how he allowed local people in Toulon to take credit for one of his ideas. Curiously, however, Duhamel occasionally failed to give attribution to the ideas of others in publications. In more financial terms: He spent 60,000 livres of his own funds in publishing his works, and gave to the nation a collection of ship models which is the base of the Louvre's collection.[15] Maurepas had given him some of the models (inherited from Pontchartrain) and he had purchased the remainder.

14. Condorcet, Marie-Jean-Antoine-Nicolas Caritat, marquis de, "Oeuvres de Condorcet," pub. by A. Condorcet O'Connor and M. F. Arago,.Paris, Firmin Didot, 1847. "Eloge de M. Duhamel," Vol. 2, p. 618.

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Book Reviews

GEORGE FRANCIS DOW, *Whale Ships and Whaling: A Pictorial History* (Mineola, NY: Dover Publications, 1985; originally published 1925). 6″ × 9″, paper, 253 pages, 207 b&w illustrations, index. $8.95.

George Francis Dow (1868-1936) wrote widely on colonial New England, piracy, slaving, and other maritime subjects. *Whale Ships and Whaling,* originally published in 1925 by the Marine Research Society of Salem, has been reprinted at least once before—by Argosy-Antiquarian, Ltd., in 1967. The present edition meets the usual high standards of Dover Publications: well-constructed paperback binding, high quality paper, and crisp and clear printing. Everything from the original edition is included, but by altering the layout of the illustrations Dover has been able to reduce the book's length by nearly half.

The illustrations constitute the most valuable part of this pictorial history and are grouped in the following categories: whale ships and whaling; whaling vessels; *Charles W. Morgan;* whales and whaling; and Jonah and the whale. The reproductions—of engravings, aquatints, lithographs, paintings, and photographs—are generally superior to those in the 1967 Argosy reprint. Color engravings are reproduced in black and white, as they were in the original edition. The captions vary in value and clarity. Some lack dates. For some, the caption that is part of the original illustration is not clear. For example, lithograph #93 of fifteen old whalers en route to join the "Stone Fleet" to be sunk in Charleston and Savannah Harbors (1861) includes the names of the vessels, but the names are illegible in the reproduction and are not repeated in the caption. In addition, some of the illustrations are less of whaling than of other maritime activities—most especially sealing.

Nevertheless, the illustrations—some highly symbolic, most representational—provide a vast source of information about whales, whale ships, and whaling techniques. The process of seventeenth and eighteenth century whaling is well-depicted, and the late nineteenth-century photographs of dismantled antebellum whalers add depth to one's understanding of the fate of post-Civil War maritime endeavors. For visitors to Mystic Seaport in Connecticut, the twenty-seven photographs of *Charles W. Morgan*—in 1924-1925 resting in a stone and cement cradle at South Dartmouth, Massachusetts—will be of considerable interest.

While the illustrations are the main attraction, Dow also includes a thirty-eight page survey of "The Whale Fishery in Colonial New England." Dow's cursory overview—based mainly on Starbuck's survey in "Report of the United States Commission on Fish and Fisheries for the year 1875-1876"—will be a familiar story for anyone acquainted with the subject. That story encompasses familiar locations—Plymouth Colony, Southampton, New Amsterdam/New York, Nantucket, and Martha's Vineyard—and familiar developments—the shift from shore-based to off-shore whaling, the evolution of laws enacted to govern the industry, the growing economic importance of whaling, the dangers of whaling, the interruptions of the Revolutionary era, and the era of revival that commenced thereafter.

Unfortunately, this overview is unsatisfactory because it is too brief and is methodologically outdated. There is little attention to life aboard whalers. There is no consideration of the role of Quaker religion in Nantucket whaling. On the other hand, Dow devotes over two discursive pages to pirate Ned Low as a way of demonstrating the dangers inherent in whaling during the eighteenth century. Yet for real insights into the mind of the pirate, Dow's narrative would have to be revised to reflect the recent scholarship of, for example, Marcus Rediker and Robert Ritchie. Similarly, Dow's sixty-five-year-old narrative ignores the financial operations of the industry and lacks the benefit of modern scholarship on colonial finance and trade. Finally, there are a few minor errors (like making Peter Stuyvesant the governor of New York, rather than New Amsterdam).

In short, *Whale Ships and Whaling* needs a revised, up-to-date narrative and some closer attention to the

captions of the illustrations. Nevertheless, the publisher was right to reprint this old classic. The book remains an essential reference and probably the best and most economical source of illustrations about whaling that a non-specialist is likely to find.

KENNETH J. BLUME
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Towboats and Tugs. Drawings by Samuel Ward Stanton. 10th and final booklet of a series edited by Elizabeth Stanton Anderson (H. Kneeland Whiting, 19 Estate Rd., Belle Mead, N.J. 08502). Paper, 40 pages, $10.00.

Samuel Ward Stanton sketched thousands of tugs. One sketchbook in the Eldredge collection at the Mariners Museum, Newport News, Va., contains 1,500 of his tug drawings. Yet, his monumental book *American Steam Vessels,* published in 1895, includes only 18 towboat and tug sketches. This little booklet includes 40: And each is accompanied by a caption in Stanton's own words, with details and history. This fine series was launched with a foreword by that noted maritime historian Alexander Crosby Brown, dated April, 1962. Each new booklet has an introduction by some noted historian. This last of the series includes the A.C. Brown Foreword and an Introduction by William A. Fox. The drawings are striking and accurate, each placed in the waterway where the steamer pictured plied, with local scenery and other craft of the area included. The captions are full. The series was produced over a span of 30 years, and is the result of much delving by Elizabeth Stanton Anderson, into the files of many maritime museums. In his Introduction, William Fox makes known that Stanton was a tuglover. Fox writes that, for him, this volume is the favorite.

Tugs from different ports and rivers are included in his booklet. The time span covered begins with the tug *Commerce* of 1825 to the *Apollo* of 1895. Tugs vary in size, from the 65-ton *Catherine,* of 1850, to the 730-ton *Niagara,* of 1845. The East Boston tug *George M. Winslow,* 1891, is shown under sail and steam. Other interesting craft are included, notably the *Kate Jones,* of 1879, built at Camden, N.J., for Alexander Jones and others of Baltimore. This was her first of four different names, This historic iron vessel lived to 1938, when she was abandoned. One of the most unusual tugs drawn is the *Bordentown,* built in 1859 at Philadelphia to carry freight and passengers between New York and South Amboy, as well as for towing. With two large paddle-wheel boxes and one tall stack far aft, this vessel had an unusually wide beam. The sketch shows her making up a coal tow in the Raritan River. The tug *Dorothy,* Hull No. 1 of the Newport News Shipbuilding and Dry Dock Co., now enshrined outside that famous yard as a three-dimensional display, is pictured as she looked when new in 1890. She had six names in her career. Two works done in 1910, two years before he was lost on the *Titanic,* show that Stanton was moving into a new field of expression, with what appear to be wash drawings. One shows 10 tugs—nine in a row, abreast of each other at the end of a pier and the other in motion. It is entitled "The Porgie Grounds—Boston Harbor." This drawing was selected for the back cover. The front cover shows the other wash drawing, a handsome modern (for that day) tug towing a four master.

The nine earlier booklets feature vessels of the Great Lakes; Long Island Sound and Narragansett Bay; Ocean Steamships; 19th Century U.S. Naval Steam Vessels; the Hudson River; Chesapeake and Delaware Bays; New York Bay; Mississippi and Ohio Rivers, Southern and Western Rivers; and Coastal steamers. Those covering the Hudson and Great Lakes have been sold out. Copies of the others may still be purchased.

FRANK O. BRAYNARD
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INSTITUTE FOR GREAT LAKES RESEARCH, *American Ship Building Company and Predecessors, 1867-1920* (Libraries and Learning Resources, Bowling Green State University, 12764 Levis Parkway, Perrysburg, OH 43551, Revised Edition, June 1988), paper, spiral-binding, 117 pages; $25.00 plus $2.50 shipping and handling.

The American Ship Building Co. began in 1899 and was formed by a merger of seven shipbuilders serving the Great Lakes. A number of other firms were acquired in the years that followed, making American Ship Building Company one of the great conglomerates in the United States. This study includes details of some 1,500 ships. Drawings from each vessel

are available from the Institute in microfilm or in blueprint form. A number of the illustrations are included in a 10-page section of this compilation. Portions of one of these are shown on the waxed paper front cover. The work was funded, originally, on a matching basis, by the Maritime Preservation Division of the National Trust for Historic Preservation, Washington, D.C. A 16-page index lists each ship covered. The work is an outstanding piece of scholarship. Special credit should go to the late Dr. Richard J. Wright, and to Mr. Jay C. Martin for the 1986-88 revision of this "finding aid." Important help also came from Dr. Stuart R. Givens, Mr. David T. Glick, Ms. Susan Riggs, Mr. Robert W. Graham, Mr. Paul D. Yon, and Mr. Joan M. Sweda.

The 1,500-ship catalogue contains a substantial amount of information about each vessel covered. The Globe Iron Works Ship No. 50 on page 34, for example, in only 8 lines of type, gives a full outline with dimensions of the James J. Hill masterpiece *North West*, on the most colorful passenger steamships ever built in America. The 4244 gross ton, three-stacked (as first built) vessel, was not only one of the most luxurious ships ever built in the nation, up to that point, but survived to be cut in half three times (to go out of the Lakes, to come back, and to go out again) for service, first in World War I and then in World War II. Seven drawings are listed.

Frank Kirby's beautiful excursion boat *Tashmoo*, built in 1899, and recently inducted in the National Maritime Hall of Fame at my museum at the U.S. Merchant Marine Academy, is covered as Ship No. 131 of the combined listing of four Detroit and Wyandotte, Mich., yards. She was built in 1899 and scrapped in 1936. Six drawings are listed.

For anyone concerned with what remarkable steamships were designed and built for the Great Lakes in the past century and a quarter, this work will be not only an eye opener, but a stimulant for future research at Bowling Green State University. I hope that it will also be an encouragement for similar research projects at other state universities. For much remains to be done in the creation of basic tools of future research as this splendid publication represents.

FRANK O. BRAYNARD

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GORDON W. STEAD, *A Leaf Upon the Sea; A Small Ship in the Mediterranean, 1941-1943* (Vancouver, B.C.: University of Vancouver Press, 1988). 218 pages, 9¼" ×6¼", cloth, preface, maps, photographs, appendix, select bibliography, index. $27.95.

A Leaf Upon the Sea is a fascinating little book about a small but fascinating subject. The author was commissioned as a Royal Canadian Navy Volunteer Reserve lieutenant in September 1940 at the ripe old age of twenty-six and promptly loaned to the British who gave him some sketchy training and made him commanding officer of ML 126, a 110 foot wooden submarine chaser with two gasoline engines and a crew of fifteen, almost all of them as green as their skipper. During the ensuing three years, they made a lengthy sea passage from Britain to the Mediterranean, patrolled the Straits of Gibraltar and carried out a desperate sortie from Gibraltar to Malta disguised as an Italian Motor Launch. Arriving at that beleaguered outpost at the very peak of its long and arduous siege by Axis naval and air forces, Stead and his brave little vessel did everything from minesweeping to convoy escort work, shooting down three German aircraft in the process. When the siege was lifted and the war passed Malta by, ML 126, worn and riddled by hard service, went with it to participate in landings at Sicily, Calabria and Salerno. By then Stead was commanding officer of his flotilla, a seasoned veteran and long overdue for home leave.

Such adventures are really the stuff of novels and *A Leaf Upon the Sea*, despite its pedigree as a university press book, often reads like a novel. Interspersed with accounts of tense and daring operations, sudden combats and mind-numbing routine minesweeping are stories of rollicking mess parties both afloat and ashore, humorous anecdotes, petty jealousies and rivalries between individuals and commands and even the briefest and most discreet hints at romance amid the wailing air raid sirens and falling bombs. Reading between the lines, one is constantly struck with the realization that the men and women of Stead's generation, especially those caught up in the various theaters of war, were tested and tempered by challenges almost unimaginable to persons coming of age in contemporary North America and Europe.

Aside from the highly personal experience of mastering the art of running a small warship in sustained combat, there are larger lessons to be learned

from this book. They relate to the whole problem of turning inexperienced civilians into naval warriors, showing conclusively that it is the character and adaptability of the individuals rather than the training given or the equipment provided that makes for success. Among small and inprovised forces the ultimate role that they play is often not that originally contemplated. ML 126 and her hundreds of sisters were designed to hunt submarines but none ever actually sank any. Instead they proved most adapted to minesweeping and were surprisingly successful against aircraft while carrying out a bewildering array of incidental tasks and missions. The motor launches, commissioned early in the conflict, proved a splendid nursery for officers who would ultimately go on to serve in corvettes, frigates and destroyers when these building programs began to come on line later in the war.

To gain an even more comprehensive insight into the larger subject of the small ships and their war, Stead's volume should be read in parallel with Edward P. Stafford's *Subchaser* (Annapolis, MD: United States Naval Institute Press, 1988). Stafford's recruitment, training and service as commanding officer of SC 692, the exact American counterpart of ML 126, virtually parallels Stead's experience but the details offer interesting contrasts between British and American practice and philosophy. ML 126 went to sea with a scanty and painfully improvised armament while the American boat was loaded to the gunwales with the best that money could buy. Powerful and reliable diesels ensured greater mechanical reliability than the temperamental gasoline motors fitted by the British. An alcoholicially "wet" wardroom seemed to do wonders for the social life and morale of the understrength British crews while the Americans, comparatively overmanned but without the tradition of hospitality, seemed to hold up a little less well. Both volumes indicate that their authors were sensitive to these nuances even as they operated, unknown to each other, in the same sea areas, covering the same operations and remarking on the same incidents of the larger war.

It is probable that, in the event of major war between industrialized rivals, itself an increasingly remote possibility, small ships will not be needed, at least not in significant numbers and so to some extent, the study of the small ship experience in World War II is somewhat antiquarian. Nevertheless, the human drama of life and combat in these cockleshells is a rich and endlessly engaging subject providing us with valuable insights into the workings of the human spirit in extreme adversity. If, on the other hand, future wars will be increasingly of the low intensity variety, such as the recent campaign in the Persian Gulf, than the large navies of the world had better make an effort to hold on to their small combatant traditions. Commemorating the experience of ML 126 and her American counterparts is a painless way to achieve this goal and one that is highly instructive.

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GEORG W. STELLER, *Journal of a Voyage with Bering, 1741-1742*, Trans. by Margritt A. Engel and O. W. Frost (Stanford U. Press, 1988). Hardback, 182 pages, map, chronology, glossary, bibliography, index, illustrations. $28.50.

Fewer than thirty thousand descendants of the traditional aboriginal peoples of Alaska and the Aleutian Islands live now in Alaska to remind us of the millenia-old culture which developed on either side of the crossroads of the two major continents. Though contact "across the bridge" is known to have been extremely intense in ancient times, it has still not been determined precisely when or under what particular circumstances man first set foot on the American continent. At certain periods, most recently that of the Cold War, contact across the Bering Strait, the only place where the frontiers of the Soviet Union and the U.S. actually meet, virtually ceased. Politics has its climates perhaps no less to be dreaded than those of an icy, wind-swept sea.

It was the Russians who sponsored the first scientific studies of the area and its peoples (Dezhnev in 1648) and their sea-loving monarch, Peter the Great, who contracted Vitus Jonassen Bering, a Danish-born captain in the Russian fleet, to put together an expedition to ascertain whether or not the Eurasian and North American land masses were joined. The date was 1724 and Peter was not to live to hear the question answered. But as a result of his initiative, Bering's First Expedition ultimately navigated the strait, fifty three miles wide and only 144 feet deep, which now appropriately bears his name.

During the following eighty years, Russian fur-trading posts gradually peppered the coast. In 1806, San Francisco was founded and became a center for

the government-controlled Russian-American Company.

In the early 1850's, Spencer F. Baird, vertebrate fauna specialist at the Smithsonian Institution in Washington, D.C. took an interest in the relationships between animals, humans and plants on the nearly contiguous land masses and, as it turned out, played a part in the U.S. purchase for $7 million of Alaska from Tsar Alexander II in 1867. The U.S. Government then undertook the "first concerted national research program—the documentation of Alaska's resources and peoples." Not until the Jesup Expedition of 1897-1903, however, were further substantial researches to be undertaken.

Meanwhile, a number of European scientists, notably James Cook in 1778 and Billings-Sarychevin in 1785-94, were observing and collecting in the area.

For long periods, the West showed only timid and sporadic interest in expanding its knowledge there. When Knud Rasmussen, noted Danish Arctic explorer, pleaded in 1933 before the Pacific Science Congress for a multi-national archaeological program in Northeastern Siberia and Alaska, he could have had no idea that in addition to the foreseeable difficulties of financing and assembling experts, there would be the 40-year diversions of WWII and the Cold War and complications involved in Alaska statehood, finally granted in 1959.

At last, the efforts of the world scientific community over a ten year period and Perestroika coincided to produce a breakthrough. In September 1988, the first international exhibition on the ethnic history and contemporary way of life of the Northern Pacific native population opened at the Museum of Natural History in Washington. Dubbed 'Crossroads of the Continents" and scheduled to tour for four years in Canada, the U.S. and the USSR, this show, a product of trans-Beringian exchange, returns us with one bound to contemplation of that enormously important series of migrations which began over 16,000 years ago and led to valuable area-specific adaptations still valid on the shores and waters of the northern Pacific seas. In conjunction with this exhibition, and the West's new ecological awareness, seminars are being scheduled, a wide range of scholars exchanged and collections and notes long gathering dust in cellars are being exhumed.

This reviewer recently stood on the steep gravelly shore of the Bering Sea on a fine day in June. Out past the broken-down gold-extracting rig, a flotilla of large kayaks moved across calm water, paddles glistening in the sun: young people on a peaceful exchange visit between Nome and Provideniya. An elderly native stood beside me watching them.

"I used to hunt whale with my father by kayak up the coast from here," he said. "Now I fish chub for the dogs. Nome is not an Inupiat town like Kotzebue. Every native could tell you when the sea speaks then Nome is washed away. It happened, but they built that big stone seawall and rebuilt the town behind it. Alaska has the get-rich-quick idea: gold, seal, oil. . . ."

I remembered the huge numbers of fish and sea and land animals killed by the Bering crew and their references to the few eskimos they saw as savages and asked him what he thought about the new understanding ecologists have of Yupik respect for and collaboration with the creatures they hunt for survival. "Scientists recognize Eskimo adaptive skills and group value systems now as visionary *and* practical, something precious almost lost during recent history," I said.

"Maybe they understand too late," he replied gloomily.

Against this backdrop, July 16, 1991 will mark the 250th anniversary of European discovery of the northwest coast of America. "Preparation for this ultimate purpose lasted ten years; twenty hours were devoted to the matter itself," wrote Georg Wilhelm Steller (1709-46), whose surviving 1743 record of the event receives its first direct English translation from German in this volume.

He was a frustrated scientist bullied by ignorant seamen and a captain so absorbed with fears about the voyage home that he denied any attempt to land on the continent itself and never called a council to consider over-wintering there. On this historic occasion with Steller expostulating "We have come only to take American water to Asia," the crew spent the bulk of its time on watch and filling barrels with water, not even taking care to make sure whether the water was fresh or salt, while Steller and a small party frantically made as many detailed observations on the ground as time allowed. Their discoveries and conclusions drawn from them consume only fourteen pages. Steller correctly concluded that behind the visible mountains lay an enormous land mass with many rivers, that "possibly this nation is one and the same with the Kamchadals and emigrated from them" and that "America is of a noticeably better character than the most extreme northeast part of Asia." He noted the rich forests right down to the shore, the wide variety of

flora and multiplicity of fresh springs. He compared the seasons with those on Kamchatka, noted the berries and sea animals, but could only conjecture about minerals and reindeer because of time and his situation on an outlying island. That opportunity missed is particularly poignant as it slowly dawns on the reader that all through the poorly conducted voyage to this historic moment and during the most calamatous return trip since Alexander's from India, Steller's precise observations and his scientific conclusions from them continue to be recorded. Illnesses, shipwreck, overwintering in perilous conditions, all manner of conflicts among crew and officers serve to expose a man of religious faith, impatience, courage and considerable modesty who to the end discharged his own important scientific mission.

His relationship with Captain-Commander Bering, with whom he was obliged to bunk, never developed into trust or friendship. When Steller asked for a few more than the twenty hours he wheedled for his work, Bering replied "I was to get my butt aboard pronto or without waiting, they would leave me stranded." Steller admits he was no seaman. On the other side, Bering declined to take the medication for scurvy offered him by Steller, his physician and a pioneer in the application of herbal medicine. Perhaps the climax of this book comes with the horrible death of the stubborn captain. Steller's respect and compassion are quietly revealed in his description of this event which preceded the long winter and return in spring to Kamchatka.

Who was Steller? Son of a Nuremburg musician, fourth of ten children, a Lutheran who attended schools in Leipzig, Wittenberg and Halle, Steller chose the natural sciences and medicine instead of theology. He was in Halle just after Bering's return from his first expedition into the Arctic Ocean and Messershmidt's expedition to investigate Siberia for Peter the Great. Determined to live his life at the frontier, Steller adroitly and at an early age received appointment to serve as physician and member of the new Bering expedition's group of scientists. His observations from the fourteen months out were a vital part of the scientific writings which occupied him for seven years after the voyage. He died young of a sudden fever in Siberia, his grave dug up by stray dogs and washed away by the Tura River. We do not know anything about his appearance in life or in death.

Although most of his specimens were lost in the shipwreck and his scientific reports in Latin also disappeared, his descriptions of hundreds of plants not familiar to botanists in Europe survived. Gmelin, Linneus, Pallas and Pennant all used his notes. He was the only scientist to see and record the behavior of the now extinct sea cow. His descriptions of Kamchatka and of the large N. Pacific mammals are highly regarded. His name lives on in a species of jay and a sea eagle.

The translators are clear about their intent to expose the "short, impartial, true" journal with all its immediacy. They wish to replace the long accepted Pallas version, widely recognized to have been edited, augmented and "improved" in a manner no longer acceptable. Much new supplementary information is contained in the chapter notes and Frost's admirable introduction. Surely this is a suitable twentieth century tribute to Bering and Steller 250 years after their ordeal. Steller's "Physical Description of Bering Island" is included to make this the most scholarly work on the subject we are likely to see in a long time.

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NICHOLAS TRACY, *Navies, Deterrence & American Independence: Britain and Seapower in the 1760s and 1770s* (Vancouver: University of British Columbia Press, 1988). 6″ × 9″, cloth, x + 207 pages, illustrations. $22.95 (Canadian).

THOMAS J. SCHAEPER, *John Paul Jones and the Battle of Flamborough Head: A Reconsideration* (New York, Bern, Frankfurt am Main and Paris: Peter Lang, 1989). 6″ × 9″, cloth, viii + 125 pages, maps. $29.50.

Eighteenth-century naval history continues to hold surprises. Even the American Revolution, so often studied, has room for new interpretations, as evidenced by these two creative and scholarly books.

Nicholas Tracy's subject is the way Britain used her navy to intimidate possible enemies and to maintain her interests during the fifteen years after the 1763 Treaty of Paris. Tracy is a master of British source materials and provides much new information on the 1770 Falkland Islands dispute and half a dozen lesser diplomatic incidents of the period. The impression Tracy creates is of continual British anxiety lest France and Spain undo her gains from the Seven

Years' War. In 1778 Britain finally got the European war she had tried to avert. For this Tracy blames the British government's weakening in its hitherto successful policy of firmly responding to any French or Spanish challenge, whatever the issue. His indictment of the North government's vacillation is reminiscent of the criticism of its American policy made by Robert W. Tucker and David C. Hendrickson's *The Fall of the First British Empire: Origins of the War of American Independence* (Baltimore, 1982). Tracy's work, like Tucker and Hendrickson's, pushes its point too far and suffers from a too exclusively British viewpoint.

Britain's obsession with a Franco-Spanish war of revenge is understandable. The British victory in the Seven Years' War was perhaps too complete for Britain's own good; it certainly circumscribed her diplomatic options. (Perhaps here the best analogy is to Germany's situation after 1871.) The rest of Europe, however, had different preoccupations. Even the French seem to have been more concerned, at least after 1766, about the Russian threat to their client states in Eastern Europe than about obtaining revenge from Britain. It was Britain's support for Russia, I suspect, that most alienated French Foreign Minister Vergennes and his undersecretaries during the American Revolution, C. A. Gérard, J. M. Gérard de Rayneval and P. M. Hennin, all of them like Vergennes experts on central Europe. Tracy, however, does give us a valuable window on the preoccupations of British policy makers as well as a great deal of information about the financing, repair and mobilization of the British Navy.

Thomas Schaeper's topic is much narrower, a single naval battle during the American Revolution. That battle, however, involves a key event in American naval mythology, the capture of H.M.S. *Serapis* by John Paul Jones' *Bonhomme Richard*. Schaeper performs a major service to scholarship just by introducing us to hitherto ignored accounts of the battle by two of Jones's fellow captains, a short memoir by Captain D. N. Cottineau de Kologuen of the French frigate *Pallas* (which Schaeper prints in full in English translation) and a lengthier one by Captain Pierre Landais of the Continental frigate *Alliance*. Schaeper's greatest contribution though is his use of this and other evidence to challenge the standard interpretations of the battle, even down to the date on which it was fought. In particular he seeks to disprove Jones's accusations that the *Alliance* deliberately fired on the *Bonhomme Richard*. While partially rehabilitating Landais' reputation he delivers a severe critique not only of Jones's veracity, but also of his abilities as a squadron commander and ship handler. Schaeper's analysis, written in a measured, almost conversational, manner seems to me very persuasive; others may disagree, but they will have to answer his arguments. My only criticism of the book is the publisher's failure to provide the critical supporting documents in French as well as in the author's English translation, an inexcusable lapse in a work of such scholarship. What we now need is a modern edition of Landais' memoirs, presently available to most of us only on microfilm.

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Yale University

GARY GENTILE, *Andrea Doria*—Dive To An Era (Gary Gentile Productions, P.O. Box 57137, Philadelphia, Pa., 19111, 1989). 6½" × 9½", cloth, 160 pages. $25.00.

This is a book devoted entirely to diving on the wreck of the Italian Line passenger steamship *Andrea Doria*, sunk off Nantucket, July 26, 1956. The central theme of the book is an interesting one. The life of the *Andrea Doria*, in this work, begins not at her keel laying, but at her sinking. The author had made "more than" 850 decompression dives, 66 of them on the *Andrea Doria*, it is said on the back flap of the book's brilliantly-colored jacket. He writes from experience, and his style is fresh and direct. The book is filled with good, in fact, brilliant, color photos—many made aboard the ill-fated Italian Line flagship. A fresh approach to book illustration is offered by the author's positioning of scenes aboard the *Andrea Doria*, from Italian Line brochures, and the same scenes, in color photos made 240 feet below the surface. An excellent example are two contrasting pictures on page 38. The top one shows the ship's port Promenade Deck, and below, a flash-illuminated photo of the actual deck, the teak planks almost clean of marine growth. What makes the comparison real, is the author's decision to use the Promenade Deck picture sideways on the book's page, so that the teak decking occupies the entire right side in the photo, and matches nearly perfectly, the angle of the teak deck close up on the ship below the surface. The reader almost feels he is aboard the water-filled hulk.

The book sheds much light on a number of *Andrea*

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Doria salvage episodes. How two real estate specialists, with a passion for the wreck, successfully carried out their dream over a lengthy period of time, is told. Their dream was the locating and bringing up of the life-sized bronze statue of Admiral Andrea Doria. In order to free it, the divers they hired were forced to cut off the statue just above its ankles. The peregrinations of this choice artifact make fascinating reading. And, as an illustration of how complete the Gary Gentile book is, there is a color illustration of the feet as they appear, still on the deck, just below a photo, also in color, of the statue.

Also of special interest, are the stories of two of the several ship's bells from the *Andrea Doria*. Diver Gentile himself discovered the bell, which was part of the navigating equipment located on the after bridge. His series of color photos, showing the bell covered with marine growth and almost completely disguised, make a fascinating example of what a diver must see in his drive to find choice relic from a sunken ship. The other bell story makes a grand final mystery to end the book with—the mystery of the bell owned by Edward Rowe Snow, writer of yarns about ship wrecks of New England. Snow refused to document how he acquired this bell. A color photo of the book is shown with the haunting sentence: "When Snow passed away in 1976, he took his secret with him."

The Gentile story is a thrilling work. Its splendid illustrations of countless objects brought up from the lost liner show the completeness of this study of the sunken ship, and give reality to the oft-repeated statement that the *Andrea Doria* will live, as few (if any), other great liners can. Two minor negative comments should be mentioned. Mr. Gentile was not aware of the fact that printers seem to relish cutting off the bows and sterns of liner photos. The publishing of a ship photo with the bow cut off is anathema to the ship lover who buys the work. The superb colored postcard of the *Andrea Doria* has both its bow and its stern cut off—and this is the book's frontispiece. And, there really should have been a good index. But these are trifles compared to the many fine features of this book.

My own connections with the sinking began at 3 a.m., when CBS-TV awoke me that night, asking me to come in and talk on the "Will Rogers Show" about ship collisions. I appeared with Walter Lord, of *A Night to Remember* fame, on two successive one-hour shows—and neither of us could conceive that the ship would go down. After breakfast at the Yale Club, I remember returning to my 11 Broadway office, still certain that, somehow, she would be saved. And then, at a few minutes after 10 a.m., I received a call from Walter Hamshar, shipping editor of the *New York Herald Tribune*, who said, simply: "She's gone!"

FRANK O. BRAYNARD
American Merchant Marine Museum
Kings Point, L.I., New York

SPENCER TUCKER, *Arming the Fleet: U.S. Navy Ordnance in the Muzzle-Loading Era* (Annapolis: Naval Institute Press, 1989). Cloth, 255 pages + drawings, photographs, tables, glossary, endnotes, index. $42.95.

Arming the Fleet is perhaps the first comprehensive work dealing with American naval ordnance from colonial days through the Civil War. While the subject may be arcane for all but the specialist or historian, Professor Tucker has packed into this slim volume all sorts of interesting data and provocative analysis, as well as numerous, helpful line drawings and tables.

The denseness of the material defies anyone to read the book straight through. Professor Tucker has attempted to convey this mass of data with graceful prose. But, for all his efforts, and probably inevitably, *Arming the Fleet* is not light reading. Rather, it is a reference work for historians of the sailing and early steam navy. Much of the book is devoted to the actual production of cannon, from the smelting of iron ore to the techniques of boring and perfecting cannon. The section dealing with the origins of the American ordnance industry and the attempts of American manufacturers to enter the fledgling "high tech" armament industry is a fascinating aspect of American industrial history.

Arming the Fleet, however, is as much a how-to manual as a history book: the ways the great guns aboard American naval vessels were stored, mounted, manned, loaded, and fired, is as much a concern of the book as how they were designed and for what purpose. Moreover, Professor Tucker makes it clear that however great the strides made by American manufacturers in the late 18th and early 19th centuries, much of the navy's firepower was dependent upon foreign sources: in the Revolution, American warships and privateers were dependent on French, and captured English, cannon; in the naval war with France in 1798, American ships were armed with English guns; and,

through the 1840's, certain American-made cannon had the nasty propensity to explode.

Arming the Fleet has several shortfalls. For one thing, Professor Tucker's analysis is occasionally misplaced. For instance, in his discussion of the advent of gunsights, he uses as an example of "poor shooting" the October 1812 frigate engagement of the *United States* and *Macedonian,* noting that of 2,500 shot fired, only 100 hull hits were registered (page 41). This example seems inappropriate. For one thing, as Captain Stephen Decatur made clear in his report to the Secretary of the Navy, the *Macedonian* "being to windward, had the advantage of engaging us at his own distance, which was so great, that for the first half hour we did not use our carronades" and the two ships were never within grapeshot or musket range. In addition, Decatur's report refers to the "heavy swell" during the action. In other words, the relatively great distance and high seas effected the firing. Moreover, the *Macedonian* lost her mizzenmast, fore and main topmasts, and main yard before the *United States'* guns were directed towards her hull. Thus, Professor Tucker's use of hull hits as "shorthand" for accuracy of fire is misleading. Indeed, Decatur in his report noted that his crew's "precision of firing could not be surpassed." Perhaps it is unfair to probe one admittedly minor detail too much, but clearly some of Professor Tucker's analysis is flawed.

Less excusable are the editing mistakes scattered throughout the work. For instance, as the above analysis indicates, *Macedonian* was defeated by the *United States,* not by the frigate *President* (page 101). Similarly, the notion that the United States navy's frigates *Constitution, United States,* and *President* "outclassed all other two-deckers and could outrun ships of the line" would certainly puzzle many people. A "two-decker" *was* a ship-of-the-line, usually of 74 guns; no frigate captain, however brave, would ever willingly fight a two-decker much less believe his frigate "outclassed" a 74 (page 131). In addition, despite the author's contention, I do not recall reading of a single instance in which red hot shot were used at sea (page 93) during the sailing era; indeed, all fires were extinguished before going into battle to reduce the risk of fire in one's own ship.

Despite its seeming encyclopedic breadth, Professor Tucker may have missed a few significant innovations dealing with American cannon. He does not mention, for instance, the Carberry "wheel" mount employed on certain gunboats built during the Jefferson Administration, in which cannon were mounted pointed in opposite directions on a circular plane, so that the recoil from one gun would turn the wheel so that the other gun would bear in turn.

These complaints, however petty or minor, are important because a work such as *Arming the Fleet* may be the only comprehensive treatment of ordnance of the early American navy for a generation. In all, however, *Arming the Fleet* puts in one place so much technical data and graceful descriptions of gun-making and use to be of real value to the historian or specialist.

FREDERICK C. LEINER

Baltimore, Maryland

B. MITCHELL SIMPSON, III, *Admiral Harold R. Stark, Architect of Victory 1939-1945* (Columbia, South Carolina: University of South Carolina Press, 1989). 326 pages, 6½" × 9½", cloth, preface, notes, bibliography, index. $24.95.

This volume is the story of a very senior admiral who seldom went to sea, never heard a shot fired in anger, never maneuvered a fleet in the presence of an enemy and who retired full of honors and dignity to die at a ripe old age at peace with himself and his brother officers. Of what interest can the wartime career of such an officer be?

Admiral Harold R. (Betty) Stark had experienced a successful but singularly mundane life in the Navy from the time he graduated Annapolis in 1903 until he was appointed Chief of Naval Operations in 1939. His one outstanding attribute was a warm personal friendship of many years standing with his Commander in Chief, Franklin D. Roosevelt. From that point in his career, which is where this book begins, Stark dealt with a vast array of ever more complicated problems. He helped organize the hemispheric defence cordon of the Neutrality Era, planned the Two Ocean Navy construction program, oversaw the transfer of fifty destroyers to the British, devised comprehensive war plans to meet the ever changing strategic problems posed by global war, superintended a secret naval campaign against the U-boats in support of the Lend-Lease program, deployed the Pacific Fleet to meet Japanese thrusts that were clearly edging towards open warfare and finally ended up presiding over the debacles that swept the Battle Fleet at Pearl Harbor, the Asiatic Fleet in the Southwest Pacific and the

Atlantic Fleet during the great U-boat offensive off the coast of North America in early 1942.

This many disasters would have surely sunk a lesser man but Stark was looked upon as a popular leader, a first rate strategic thinker, a born diplomat and a brilliant professional officer. In March of 1942 he turned his post as CNO over to Admiral Ernest J. King and took up a new appointment as Commander United States Naval Forces Europe with headquarters in London. He remained at this post until the end of the war in Europe carrying out a bewildering variety of military and diplomatic functions which, however diverse they might have seemed in detail, all had the general aim of seeing to it that the integration of American naval forces into the struggle against Hitler's Germany went smoothly and accomplished the overall aims of the Allies with a minimum of friction and disruption. In this job, all of Stark's qualities as a leader and diplomat were taxed to the fullest and he acquitted himself with distinction.

Upon his return home Stark found he had one last hurdle to overcome, a searching and acrimonious investigation into his role in the devastating attack on Pearl Harbor. As CNO Stark had done his best to prepare his fleet for war in the murky twilight atmosphere of a muted but unmistakable drift towards hostilities in which intelligence resources were scattered amongst rival agencies, responsibility for the defence of military bases was actually vested in the Army and nobody had a crystal ball. He ultimately satisfied most of his putative critics, both civilian and military, that he carried no real blame for the disaster which had nevertheless cost him his chance to preside over the Navy for the duration of its largest and most comprehensive test of battle. He then peacefully retired to enjoy a well deserved rest punctuated by the conferring of honors and medals to commemorate his wartime services and the many firm friendships he had made for himself and his Navy.

In developing his account of Stark's wartime service career, B. Mitchell Simpson has produced a fairly workmanlike volume albeit one that is rather flat and colorless in tone. An officer serving in Stark's capacity may not have had to dodge salvos or launch desperate air strikes on the basis of inspired guesswork but he had his share of cliffhangers nevertheless. There were probably many times when Stark had to lay his neck and his reputation on the line to maintain Allied unity and head off impending diplomatic and strategic disasters. Simpson chronicles these situations but in such a way that their urgency and the high stakes involved fail to impress the reader. He simply does not do a good job of making the issues clear, mostly through lack of sufficient emphasis. The treatment of Stark's exploits is cluttered with accounts of house parties, receptions, high teas with the Royal Family and luncheons with various British admirals rendered in almost exactly the same prose used to describe tense confrontations with Charles DeGaulle and critical technical problems with the artificial harbors being fabricated for the Normandy landings which Stark had to help iron out. As a result, a reader who possesses little background knowledge of the complex cooperative venture that Stark was helping to steer might fail to appreciate how important his work really was if the only source of information was this book.

JAMES E. VALLE

Delaware State College

RALPH D. GRAY, *The National Waterway; A History of the Chesapeake and Delaware Canal, 1769-1985*, second edition (Champaign, IL: University of Illinois Press, 1989). 330 pages, 9" × 6", paper, two prefaces, maps, photographs, bibliographical essay, index. $13.95. Clothbound, $29.95.

There is an old adage that no job is ever as simple as it looks. Nowhere has this been proved to be more true than in the case of the Chesapeake and Delaware Canal. On the face of it the construction of a canal fourteen miles long connecting the Chesapeake and Delaware bays across a neck of flat coastal plain with no significant rock formations should have been a simple matter. In fact, it has taken more than three hundred years from the initial proposal, made by a Swedish governor in 1654, to the present to bring the canal up to its current capacity and there are still a few problems that need to be resolved, hopefully sometime soon.

In relating the long and complex tale of the Chesapeake and Delaware Canal, Ralph D. Gray has skillfully blended corporate history, national history and public history to show how the canal was privately surveyed, built, improved and finally taken into the public domain as a national waterway operated by the Army Corps of Engineers. He has shown how it affected our national destiny from the Civil War era when it was the only reliable way to move troops and supplies to Washington from the Northeastern States

tablished to plan for the 1992 Bicentennial Celebration of Robert Gray's 1792 exploration of the Columbia River. This project in such knowledgeable hands is bound to be a success, and a rich complement to the various 1992 celebrations centering on Christopher Columbus, George Vancouver and others. I found this a delightful book to read, for the only necessary reason that it is an evocation of a sea life now passed but which lives still through the vivid images of this fine book.

BARRY GOUGH

Wilfrid Laurier University
Waterloo, Ontario

Voyage to the Southern Ocean: The Letters of Lieutenant William Reynolds from the U.S. Exploring Expedition, 1838-1842. Edited by Anne Hoffman Cleaver and E. Jeffrey Stann (Annapolis, MD: United States Naval Institute Press, 1988). 384 pp. $24.95.

In the short span of four years, a naval squadron of six vessels wearing the Stars and Stripes surveyed 280 islands and drafted 180 charts. The expedition of Charles Wilkes mapped 800 miles of the Oregon coast, coasted the unknown shores of Antarctica, thus proving the existence of the seventh continent, and ranged widely through the archipelagoes of the Pacific. The expedition collected and described natural history specimens from all corners of the globe, specimens that formed the early core of the Smithsonian's collection. The expedition launched the United States on its way to becoming a scientific power, and contributed to the growth of American naval and mercantile prowess and preeminence in the Pacific world. In all these ways the Wilkes expedition was a magnificent voyage.

It is all the more welcome, therefore, that yet another body of documents has been brought into the public realm. For the letters of the young midshipman William Reynolds sent home to his mother and sister are telling tributes to the revealing nature of exploring expeditions. Reynolds knew that he was making history, and that the squadron was at the cutting edge, so to speak, of historical change in the still little known Pacific Ocean. He describes the daily challenges facing the sailors. He recounts a tragic story of the murder of two naval officers by Fiji natives. Of particular interest, too, is his description of the controversial commander, Wilkes, and the deterioration of his relationship with the crew. He tells of the perils of navigating the Columbia River entrance. The twenty-one letters here printed are of high literary quality. Twenty-two plates, several maps, two appendixes, and an introduction and epilogue by the expert in these matters, Herman Viola, enhance the value of this book. It is an important contribution to voyage and Pacific literature, and a credit to publisher, editors and their assistants.

BARRY GOUGH

Wilfrid Laurier University
Waterloo Ontario

EDWIN BICKFORD HOOPER. *United States Naval Power in a Changing World* (New York: Praeger, 1988). xvi + 294 pages, 22 illustrations, 8 maps, 6 charts, bibliography, index. $47.95.

Admiral Hooper was one of the Navy's elder statesmen who, upon retirement after forty-four years of active duty, was promptly recalled for another half dozen years as Director of Naval History and Curator of the Department of the Navy. His compact history of the United States Navy is dedicated in good part to the principle that "The Past Is Prologue," that there are enduring lessons from the Navy's past worthy of remembering when planning for the future. To buttress these truisms, Hooper obviously relies heavily on his own experiences during war and peace in gunnery, in amphibious warfare, in logistics, in Research and Development, and in a variety of other naval areas. Recurring through his chapters is the theme that the Navy should be recognized as an entity entirely separate from the Army and Air Force. The Navy's direction, therefore, should be entrusted to naval professionals. This theme he develops as he moves from the founding of the Navy Department in 1798, through the creation of the bureau system in 1842 and the Chief of Naval Operations in 1915, to the joining of the CNO and COMINCH in the person of Admiral Ernest J. King during World War II. Hooper had no sympathy for the unification movement after 1945 in which the Navy was forced on the defensive by the Air Force; the Navy Department lost status and power to the ever expanding and proliferating bureaucracy of the De-

partment of Defense; and the authority of the CNO and other naval comanders progressively passed to others outside the Navy. He deplored what he regarded as the drive for unification as an objective without due regard for its consequences. Nor did he approve creation of the Office of the Secretary of Defense that, despite its pretensions to economy, came to include one deputy secretary, twelve assistant secretaries, nine under secretaries, twenty-two deputy assistant secretaries, three assistants to the secretary, more than one hundred directors and their respective staffs. Space does not permit enumeration of all the other lessons to be found in this somewhat didactic book. Unfortunately, Hooper apparently finished his manuscript before the advent of Secretary of the Navy John Lehman and the Reagan administration's plans for a 600 ship navy. The admiral's manuscript was accepted for publication on the day of his death in 1986. It was seen through the press by two sons (William P. Hooper and E. Bickford Hooper, Jr.) and the present Director of Naval History, Dean C. Allard.

WILLIAM R. BRAISTED
The University of Texas at Austin

DANA STORY, *Building the Blackfish* (Gloucester, MA: Ten Pound Island Book Co., 1988). 10″ × 8″, 173 pages, 86 illustrations, cloth bound hardcover. $24.95.

This little volume is a gem. Eighty-six splendid full-page photographs by master photographer John Clayton detail chronologically and step by step the construction of a veritable miniature Gloucester fishing schooner, each picture analyzed and explained by Essex shipbuilder/historian Dana Story. Actually the book demonstrates how a common type of wooden sailing vessel was built in the 19th and 20th centuries, as represented by Blackfish a 52-foot schooner yacht built in 1938 at the Essex, MA shipyard of Jacob Story. In his brother's delightful style of narration we learn something about the aging master craftsmen who created Blackfish as they go about their tasks with consummate skill.

One departure from conventional Essex-style construction, necessitated by her intended use as a pleasure craft, Blackfish carried her ballast outside in the form of a 10½-ton cast iron keel. Ironically it was this feature that led to her loss twenty-five years later, when due to undetected corrosion, the heads of the keel bolts disintegrated and allowed the keel to drop off. The schooner rolled down and filled. Happily all hands got away safely but by the time the hulk had washed ashore it was beyond saving.

This book is in a class by itself, a sure delight to anyone with interest or curiosity about traditional wooden ship construction as practiced in New England.

CHARLES S. MORGAN
Concord, Massachusetts

"Euterpe," Diaries, Letters and Logs of the "Star of India" as a British Emigrant Ship, compiled and edited by Craig Arnold (San Diego, California; The Maritime Museum Association of San Diego, 1988), paper, 234 pages, $18.00.

The Maritime Museum Association of San Diego is the owner of the iron ship *Star of India*, launched at Ramsay, Isle of Man in 1863. After six voyages from Britain to India in the jute trade, she passed to the ownership of Shaw Savill & Co. in 1871 and began a career as an emigrant carrier between the British Isles and New Zealand. During these years her name was *Euterpe*, but when she came under the ownership of the Alaska Packers Co. as a supply and station ship for salmon canneries in Alaska she was renamed *Star of India*. After she was replaced in the salmon trade by a steamer she was laid up at the Alaska Packers' yard in Alameda, California and thence she passed through various hands and became a museum ship at San Diego.. The Maritime Museum Association purchased her when she was falling into sad disrepair, and she has been carefully and lovingly restored to her condition when in active service to the Alaskan canneries. She has been completely re-rigged and provided with a suit of sails so that she is able to proceed to sea under sail on one or two occasions each year.

Craig Arnold, Librarian of the San Diego Maritime Museum and a man of seagoing and literary background, has gathered a collection of documents illustrating *Euterpe*'s career as an emigrant ship in the New Zealand trade. His book is divided into two parts, the first entitled "The emigrants" and the second "The sailors." Most of the first section consists of diaries kept by passengers in *Euterpe* from London to

New Zealand in 1875-6 and 1879. These are filled out by Immigration Commission and Surgeon Superintendent for voyages made in 1874, letters from passengers and children of passengers containing reminiscences of voyages, a long narrative poem by a passenger in 1874, and contemporary published information for intending emigrants to New Zealand.

The section called "The sailors" consists of extensive extracts from the log for the round voyage from Glasgow to New Zealand and back to London in 1884-5 as kept by William Patterson, her first officer, and of pertinent extracts from the personal log of Captain George E. Hoyle for the same voyage.

Mr. Arnold has provided introductory and connective sections to the book, and has identified persons and places mentioned insofar as possible. There are four introductory sections for the chronological periods covered in which Mr. Arnold undertakes to provide background information on world affairs and social conditions obtaining at that time. The book is illustrated by 47 photographs, prints, and reproductions of documents which are interesting and often unique although sometimes indifferently reproduced. There is a sail plan of *Euterpe,* but no arrangement plan.

In all, Mr. Arnold is to be congratulated for having assembled a most interesting and useful set of materials which illustrate admirably life in a passenger-carrying ship in the latter 19th century and the career of *Euterpe* in particular. Although not cloth bound, the book is sturdily made. It is a welcome addition to the bibliography of life in sail in the last years before power-driven ships monopolized the sea lanes.

JOHN HASKELL KEMBLE

Pomona College

ROBERT LLOYD WEBB, *On the Northwest: Commercial Whaling in the Pacific Northwest, 1790-1967.* (Vancouver, B.C.: University of British Columbia Press, 1988). xxiv + 425 pages, illustrations, map, bibliography, index. $25.00.

Whaling off the coasts of present-day Washington, British Columbia, and Alaska is the subject of this excellent, comprehensive book. It opens with the reporting of whales on the coast of Vancouver Island by the Cook Expedition in 1778. Cook and his men encountered ample evidence that the Indians of the region were accustomed to taking whales from shore-based craft, and Webb includes such information about this as the accounts of European visitors and archeological research make possible. In the last part of the 18th century and the first third of the 19th the major attraction for sailors from afar were the skins of sea otter and seals which could be taken there and sold to advantage in China.

During the 1830s vessels seeking primarily to take whales appeared in these waters. They came mainly from New England, and while the whaling grounds off the Northwest Coast were not their sole objective, they did come to the region and take whales there as well as elsewhere on their far-ranging voyages. The declining demand for whale by-products by the middle part of the 19th century and the attraction of the richer whaling grounds in the Northwest Pacific and the Arctic Ocean lead to a decline in whaling off the Northwest Coast by the 1860s.

The disappearance of whalers from afar, however, was soon followed by shore-based whaling from the coasts of Alaska, British Columbia, and Washington. Financed by American and Canadian capital and with leadership and expertise from Norway, this phase of whaling on the Northwest Coast persisted until after the middle of the 20th century. Small steamers replaced the sailing vessels of the earlier period, and harpoons fired from specially designed guns aboard the whalers, armed with explosive devices which killed whales more speedily made the taking of whales a surer affair. The carcasses of whales thus killed were towed to well-equipped shore establishments where they could be cut up and readied for a variety of uses much more efficiently than alongside a whaler at sea as in the old days. Although the high return from whale oil, spermaceti, and bone of the earlier period was no longer to be had, a great variety of uses for virtually every part of the carcass of a whale made the trade at least marginally profitable. The efficiency of the killer vessels coupled with the slow reproductive cycle of the whales meant that the supply of whales in these water rapidly diminished, and by the 1960s the trade was virtually extinguished.

This book is the result of a remarkably careful and extensive program of research. The bibliography of manuscript and published sources runs to 37 pages, and there are 65 pages of enlightening and valuable end-notes. The appendix following the text contains the journal of a whaler on the Northwest Coast in 1843. The text is illustrated by 72 reproductions of

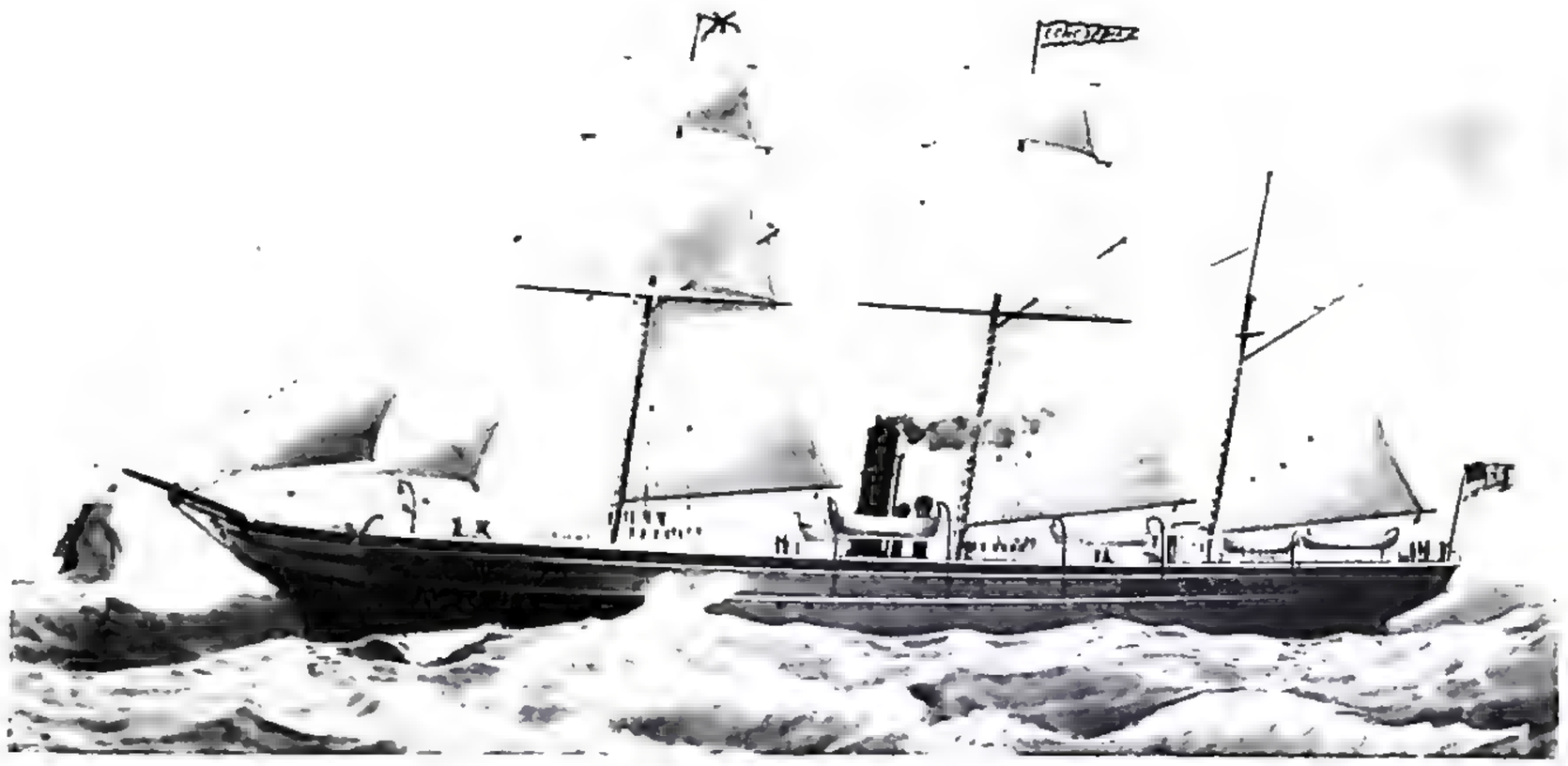
drawings, paintings, and photographs, most of which have not been published before. There is a detailed map of the coast from Oregon to the tip of the Aleutians.

Mr. Webb writes well although at some points he provides more detail than any but the demanding reader would require. He knows the coastline of which he writes although he is now Curator of Research at the Kendall Whaling Museum at Sharon, Massachusetts.

The book is clearly a contribution of the first order to maritime history, and should serve not only as a source of information but also as a model for scholars and writers in other aspects of the history of the sea.

JOHN HASKELL KEMBLE

Pomona College



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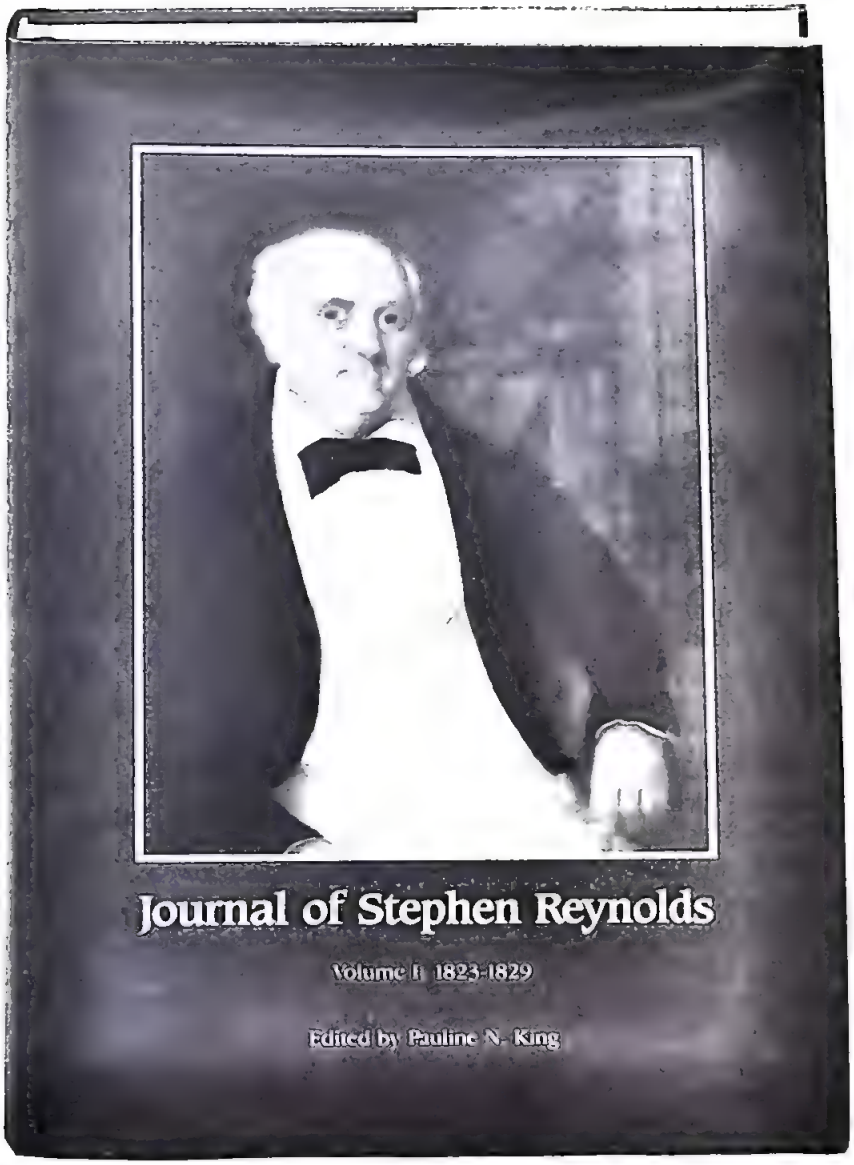

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Edited by Pauline N. King. Published by the Peabody Museum of Salem and Ku Pa'a, Incorporated of Honolulu, Hawaii.

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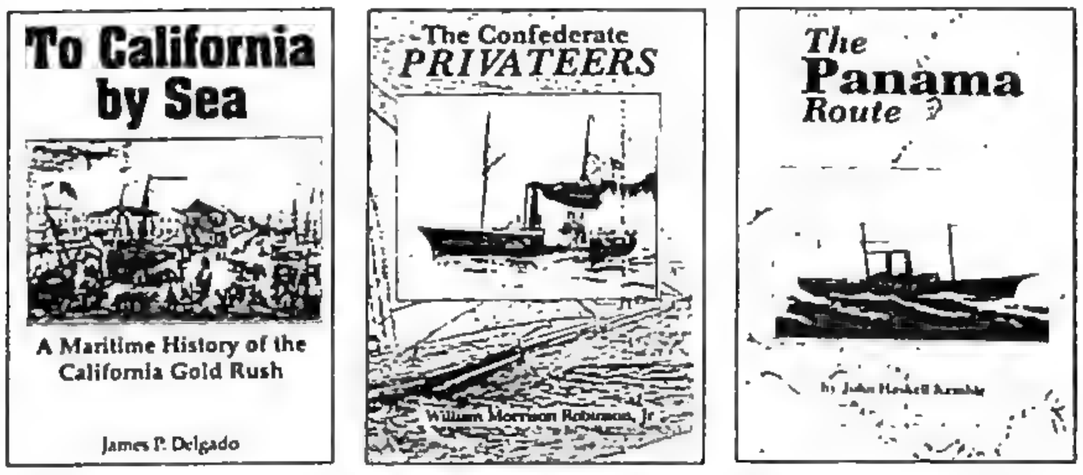

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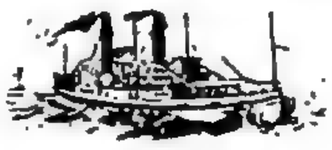

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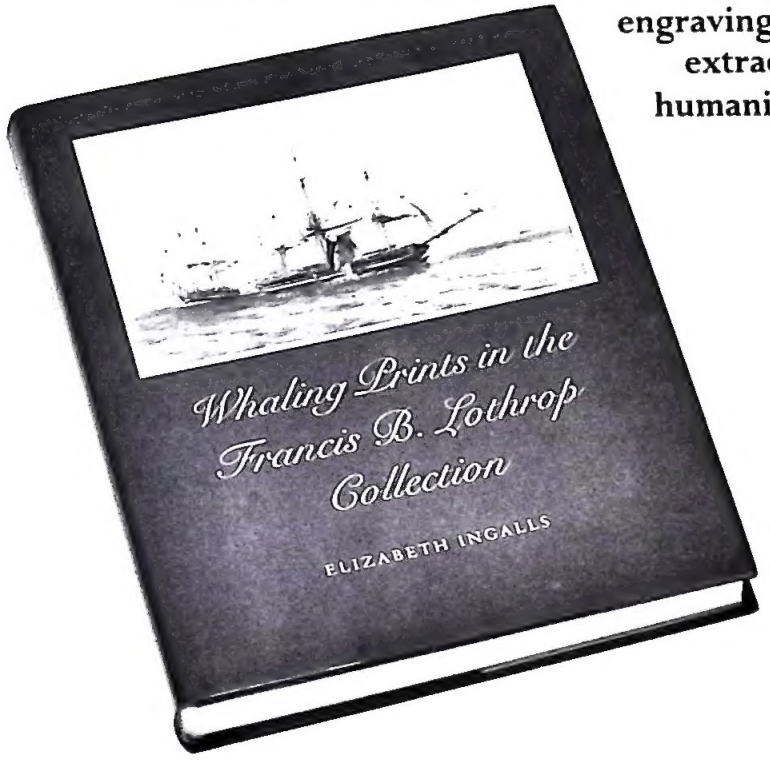

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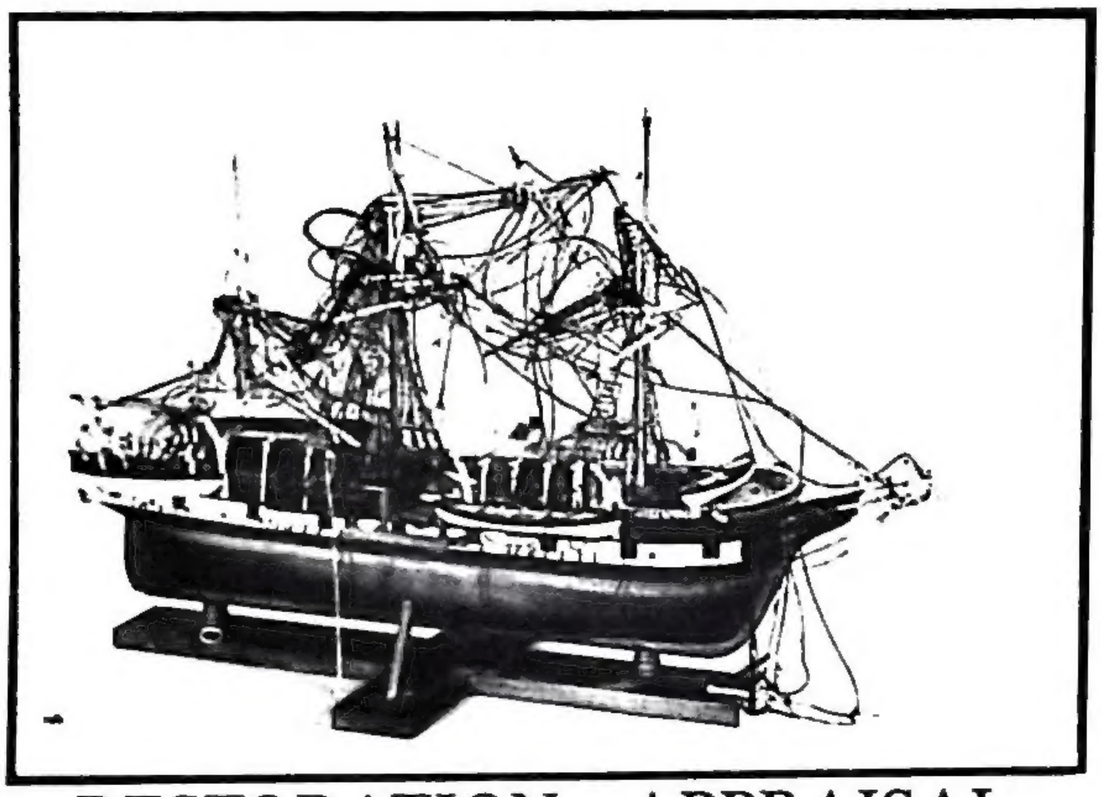

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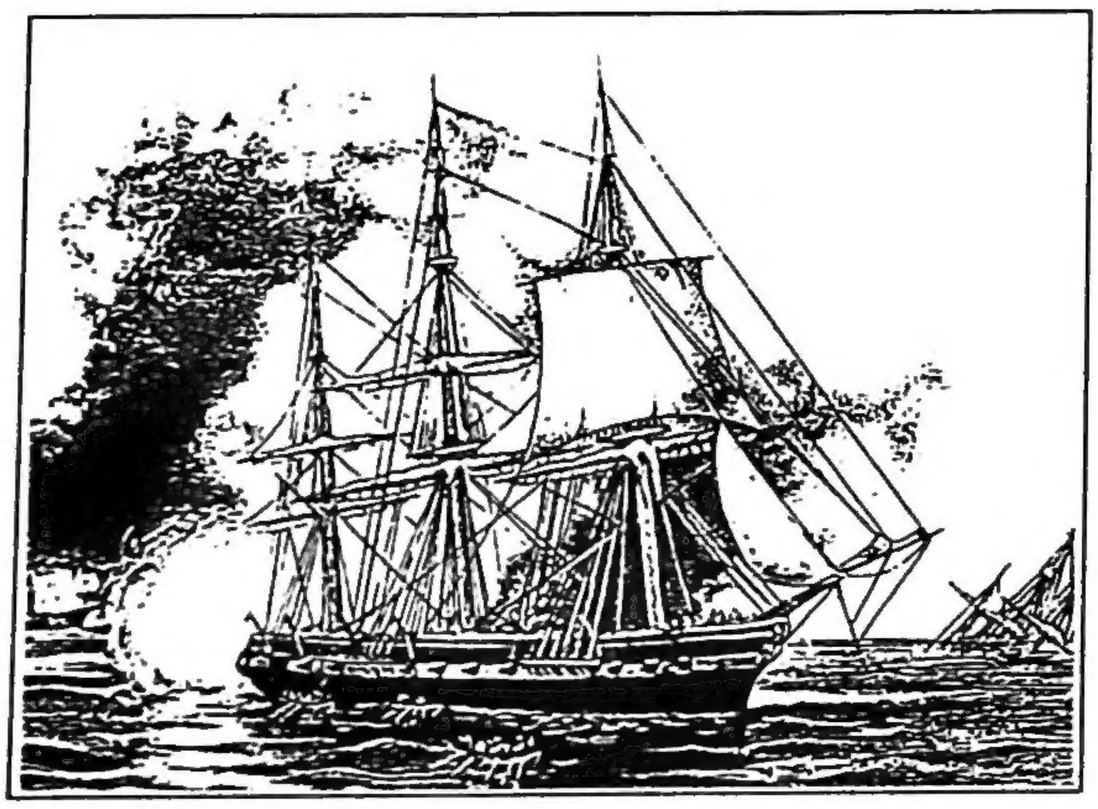

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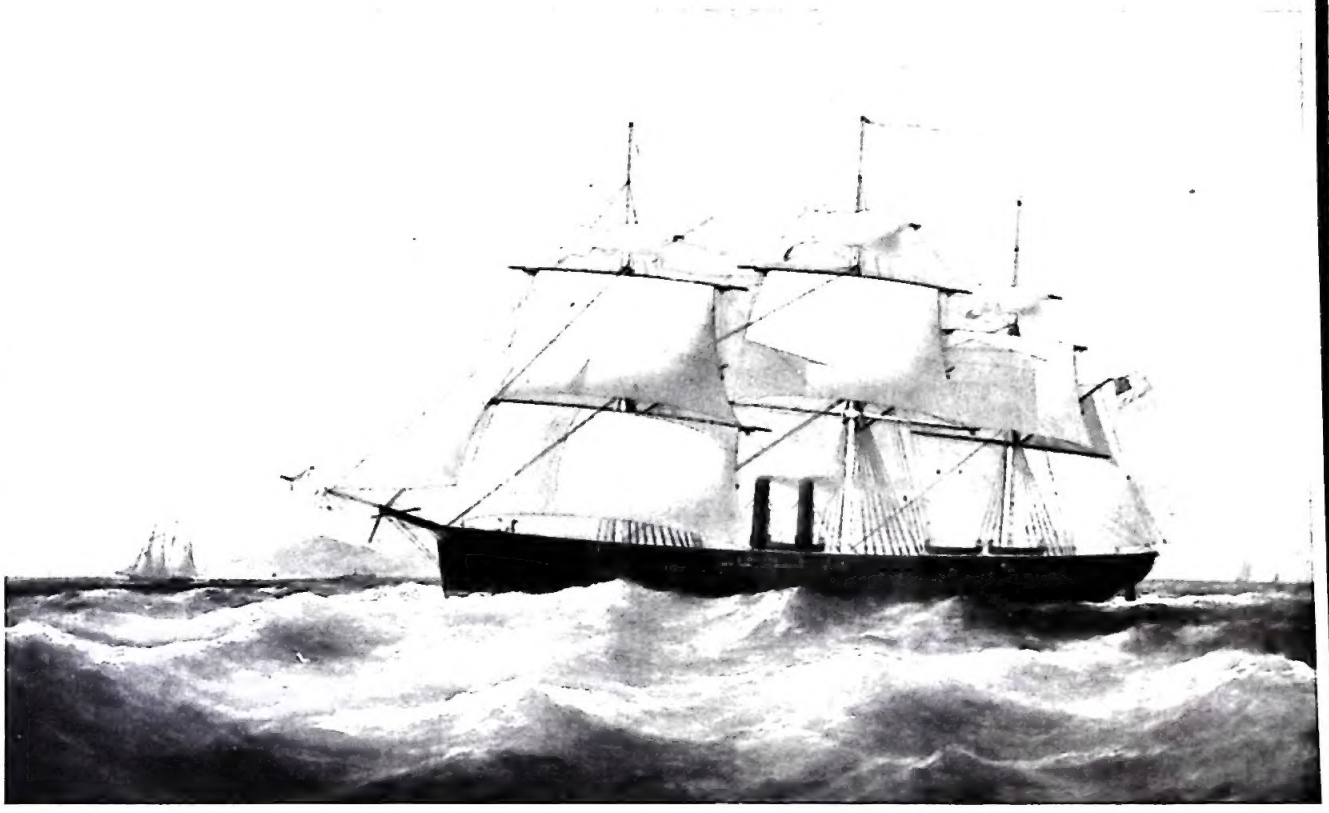

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